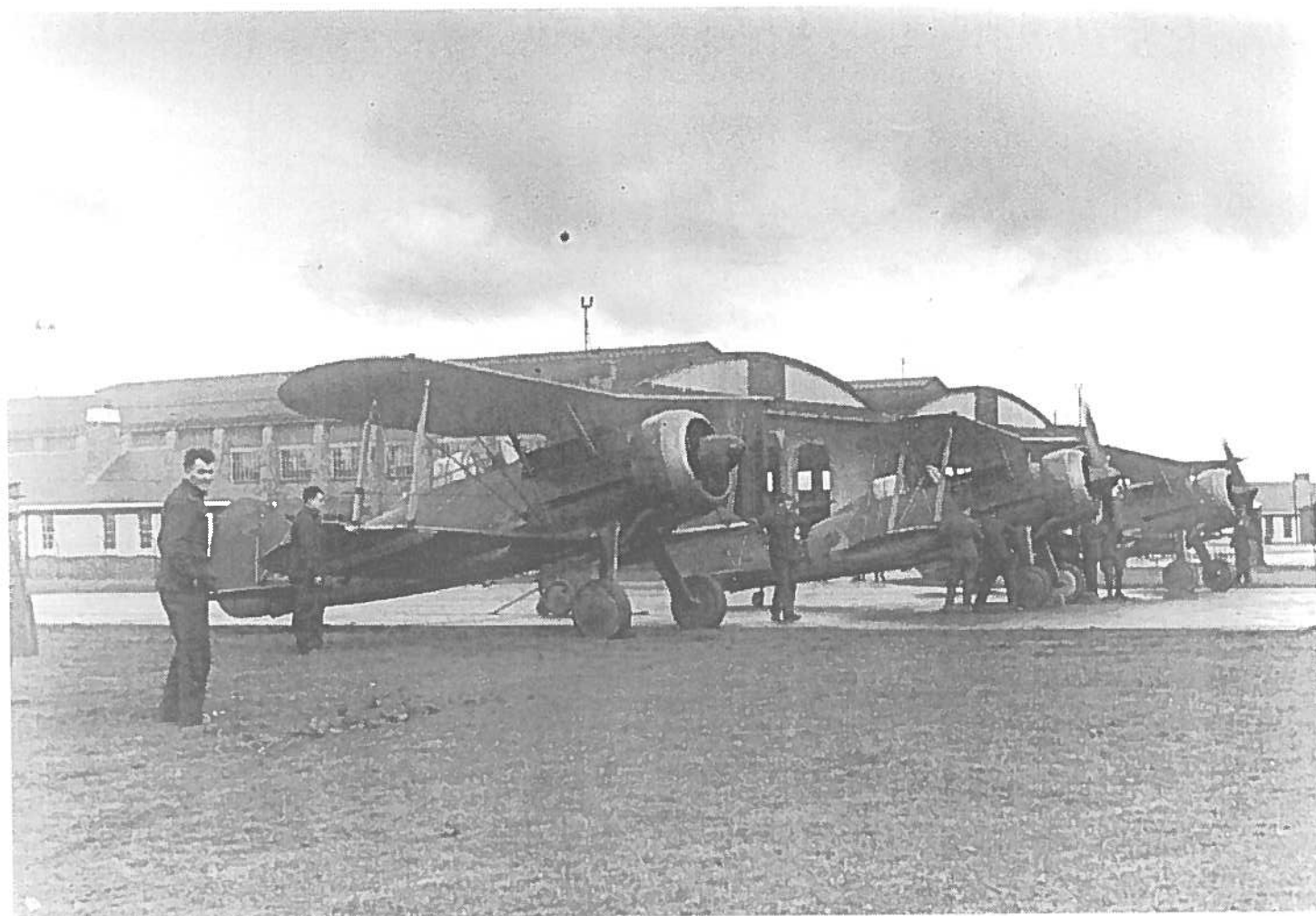


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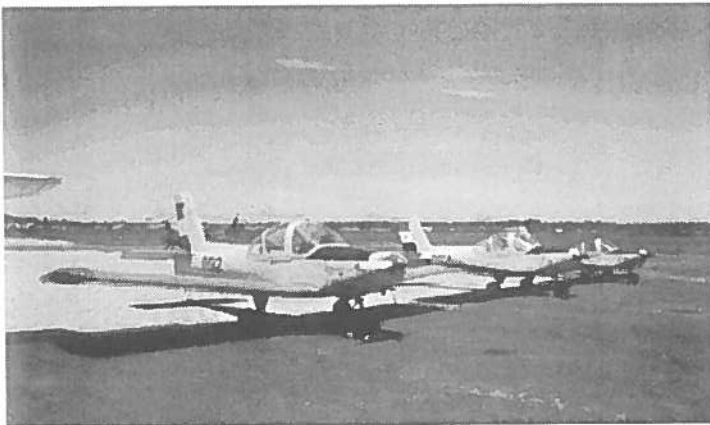
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**Royal Yugoslav Air Force Dornier Do 17K
Paraguayan Air Force T-23 Uirapuru
Irish Air Corps Gloster Gladiators
Luftwaffe Gloster Gladiators
Martin Mars Water Bombers
Chaco War Aircraft Loses**

vol. 24 no. 1 (93)

April 2000



SMALL AIR FORCES OBSERVER

The Newsletter of the Small Air Forces Clearing House

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SAFO EDITORIAL POLICY: The purpose of the SAFCH is to "promote interest in the history and modeling of the aircraft of the smaller countries". In support of this goal, the SAFCH encourages international cooperation in researching aviation history, both military and civil, from all periods of time, and for all the smaller countries. In return for this support, members are asked to submit occasional progress reports for publication in the SAFO. While the final results should appear in the most prestigious publication possible, it is requested that the SAFCH be mentioned (with address) in the article and that SAFO be afforded the opportunity of reprinting the material. Article published in SAFO can be reprinted provided permission of the author is obtained and the SAFO is identified in the reprint.

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SAFO ON THE WORLD WIDE WEB: Drop in at the SAFO web site at www.bartoli/safo/. Besides a Chat Room, you'll find color renditions of the b&w photos that appeared in SAFO, photos of member's models of small air force aircraft, links to member's web sites, and much more.

COVER COMMENTS: This photo of Irish Air Corps Gloster Gladiators introduces the article by Alex Crawford on page 13 of this issue. (Photo vis the author.)

TAILPIECE: These photos of Royal Yugoslav Air Force Dornier Do 17Z complement the article by Bradic Strenko that begins on page 15 of this issue. (All photos via the author.)

LAST CHANCE SALOON: To help clear the shelves, a few titles from the Estate Sale will be offered each issue. If they are not sold by the time the next issue is published they will be tossed out. These are free, you just pay the postage. If you need specific issues, write for quote. African Air Review: 71 issues 1977-84. Air Britain News: 34 issues 1978-80. Air Force: 24 issues 1972-78. Interavia: 1/76, 3/77, & 7/77. North American Aviation News: 4/78.

HELP: I need the address of Andy Heape, formerly of South African and last known living in England. If anyone knows Andy's present whereabouts, send me his current address or have him contact. It is very important; I owe him money.

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AUSTRALIA

AUSTRALIAN PLASTIC MODELLERS ASSOCIATION (APMA, PO Box 51, Strathfield, NSW 2135; 4 issues sea mail A\$27; air mail A\$30). 4/99 (36 pages) "Soviet Hurricanes" 3 pages including 2 side-view drawings and drawings of rocket instillation. "W.G. Barker and B6313: The tale of a Camel" 2 p[ages] including one photo and 4 side-view drawings. "CAC Winjeel" 15 pages including 4 pages of 3-view drawings and sketches of interior details. "Jaunty Javelin" 2 pages including 4-view drawing of aircraft in a special red/white color scheme. "Tropical Lancasters" one page with 2 side-view drawings (Aeronavale & RAF).

AUSTRIA

OFH NACHRICHTEN (Oesterrichische Flugzug Historiker, Pfenniggeldf. 18/2/14, A-1160 Wien. Write for free sample.) 20-Year (77/97) Index available.

4/99 (36 pages) "Wasserflugzeuge uber Osterreich 1922-1938" 8 pages including 8 photos (Junkers F-13W, Lohner R, & Hopfner HA 11/33). "Knetief lag der Schnee" 8 pages including 4 photos. Two side-view drawings (HB C.1 & Phoenix D.1) and 4 photos (Albatros B.1, Do Komet, & Berg D.1).

BRAZIL

EM ESCALA (IPMS Brazil, Rua Lucidio Lago, 457/206 - Meier - Rio, RJ, CEP 20780-020. Subscription is \$10.00, but they prefer kits or accessories. Send to Antonio Pereira Linhares at the above address.)

#94 1999 (16 pages) "O Bell H-13 no Brasil" one page including 2 side-view drawings. "Correcoes da materia dos Avenger Brasileiros" 2 pages including 3-view drawings of two Brazilian Avengers.

CANADA

RANDOM THOUGHTS (IPMS Canada, Box 626, Stn. B, Ottawa, Ontario K1P 5R7; 6 issues for US \$24.00 in US \$26.00 elsewhere).

26/4 (24 pages) "Airfix's 1/48 Sea Harrier FA.2" 4 pages including 2 photos of the model. "The Balkan Rats" 6 pages on Canadian CF-18 in the Balkans including individual aircraft histories, 8 photos, and a small decal sheet with "rat" emblem in 1/72- and 1/48-scale. "Accurate Miniatures Yak-1 (on Skies)" 2 pages including one photo of model. "1/72 Execuform Floatplane C-47" one page including one photo of model. "AMT/ERTL Curtiss P-40F Warhawk" 2 pages including one photo of model, one side-view drawing of French a/c, and 3 sketches.

ENGLAND

IPMS MAGAZINE (Ernie Lee, 51 Ball Road, Hillsborough, Sheffield, South Yorkshire S6 4LZ, 6 issues for £20.00 (US subscription agent: Wise Owl Publications, 1926 S. Pacific Coast Highway, Suite 204, Redondo Beach, CA 90277).

6/99 Nov/Dec 1999 (48 pages) "Jensen's Interceptors: Part 2" 3 pages on building Tempest Mk IV including 4 photos of the model, sketches, and a side-view drawing. "Moulding and Working in Resin" one page. "Fokker F.VII Series and Derivatives" 6 pages including 4 pages of 1/72-scale drawings (Spanish Republican F.VIIa, Spanish Nationalist F.VIIa, F.VIIb/3m PH-AFC 'Able Tasman', and Avro Ten VH-UNJ). "Big Scale Hunter" 2 pages on building the 1/32-scale Revell kit including 3 photos of the model. "The Flying

Suitcase" 2 pages on building the Airfix Hampden including sketches and 4 side-view drawings.

1/00 JAN/FEB 2000 (48 pages) "Photo Recce Lightnings" one page with 5 side-view drawings (1 French & 4 civilian). "Bumper" 6 pages on the history and modeling of US V-2 with WAC Corporal second stage including 3 photos of prototype, 6 photos of the model and 2 pages of scale drawings. "Fairfield Photo Shoot" 2 pages with 14 photos (Greek A-7H, Turkish F-4E, French F-8E, German Tornado, Dutch F-16, Italian AMX, & Finnish Fokker Troopship). "Brewster's Sky Peal" 4 pages with 4 photos of the model and 7 side-view drawings reprinted from IPMS-USA Quarterly.

THE CATALINA NEWS (Joan Watts, The Catalina Society, 24 Batts Hill, Reigate, Surrey, RH2 0LT England. One year £15.)

#43 January 2000 (24 pages) "PBY5A Bu46633 and VPB-53" one page including 2 photos. "Catalina AH543 and the Scharnhorst" One page including one photo. "The Catalinas of Cathay Pacific Airways & Macau Air Transport" (Part 2) 4 pages on world's first airline hijacking including one map and 2 photos. "Australian Update" 2 pages including 2 photos and table. "World Catalina News" 3 pages including 4 photos.

PLASTIC KIT CONSTRUCTOR (PAMAG Publications Ltd., 3 Lowfield Court, Old Forge Business Park, Sark Road, Heeley, Sheffield, S2 4HG; 4 issues £18.00. In USA/Canada order from J.J. Daileda, 4314 West 238th St., Torrance, CA 90505; since exchange rates fluctuate write Joe for current rates).

#59 Autumn 1999 (32 pages) "Douglas A-26K" 4 pages on converting the Revell A-26B kit including 29 photos of the model. "Airline Modelling: Douglas DC-2" 3 pages on building the Dekno kit including 6 photos of the model. "Return of the Bulldog" 2 pages including 10 photos of a museum aircraft. "Blackburn Firebrand in 1/48 Scale" 7 pages on scratch building including 23 photos of model and 3 pages of 1/48 scale drawings. "The Blackburn Firebrand" 2 pages including 4 photos and 2 side-view drawings. "Junkers EF 128" 2 pages on building the Huma kit including 18 photos of the model. "Tu-22M3 Backfire C: Böggy from the Balkans" 2 pages including 7 photos. (Editor's note: Ukraine is not in the Balkans, so this is carrying poetic license to far.) "Me 328" one page of 1/72-scale drawings. And, the usual collection of the best kit reviews in print.

[Editor's note: This issue included a small decal sheet of USN and USMC markings for a McDonnell Douglas Phantom II. This sheet is available to the first reader who sends a SASE.]

INSIGNIA (Blue Rider Publishing, 43a Glasford St., London SW17 9HL, UK.) 4 issues £24.00 surface mail worldwide; £26.00 air mail USA/Canada; £28.00 Australia/Japan. IMO, Mastercard/Visa/Access, or US currency notes. Add £5.00 if paid by dollar cheque.

#13 Winter 1999 (36 pages) "Aircraft of the Balkan War" 7 pages on Bulgarian a/c including 14 photos and 4 scale drawings (Albatros F.2, Bristol-Prior Monoplane, Nicuport IV, & Bleriot XI-2 Artillerie). "Air Force Insignia #19: Rhodesia" one page including list of aircraft 1947-1979. (Ed. Color drawings of the insignia appeared in the previous issue of Insignia.) "Latvia & Georgian Markings" 2 pages including 2 photos, 3 side view drawings (Latvian Let L-410UVP-T Turbolet & PLZ Swid-

nik Mi-2U Hoplite and Georgian Mil Mi-8 Hip), and a small decal sheet for all three aircraft. "The Gloster Sparrowhawk" 3 pages on the Japanese planes including 2 photos, 3 scale 3-view drawings, and 2 side-view drawings. "Yugoslavian Spoils of War 1945-46" 4 pages including 3 photos and 4 side-view drawings of USAAF a/c in Yugoslav markings (P-38L, B-24J, & B-17G). "Latvian National Guard 1938" one page with 7 photos. "Air Force Insignia #20: Sweden" 5 pages including 17 color drawings of insignia and 11 side-view drawings (Avro 504K, LVG C.VI, Fokker D.VII, Farman HF.23, Bristol Bulldog, DeH Tiger Moth, Klemm KL 35B, Noorduynd AT-16). "Air Force Insignia #21: Uzbekistan" 1/2 page including color drawing of insignia and list of aircraft. "Biafran AF Riley Dove 1970" 1/2 page with color side-view drawing. "Estonian & Lithuanian Aviation 1999" one page with 7 color photos (Estonian L-410UVP and Lithuanian Aero L-39ZA, Mil Mi-8PS, & Mil Mi-8T). "Letters" 4 pages with letters on the history of the early Turkish, Chinese, and Ukrainian Air Forces.

SWEDISH AIRFORCE SIG (Ted Burnett, 19 Tintagel Close, Parkside Grange, Cramlington, Northumberland, England NE23 0NZ. Subscription £4.00 UK, £6.00 Europe, \$16.00 USA. Include your SAFCH number).

#32 Christmas 1999 (19 pages) "SAAB 210 Lill-Draken" 2 pages including 1/72-scale drawings and a review of the new kit. "TP 81 Grumman Goose" 2 pages. "The Daedalus FVM J23" 2 pages including side-view drawing and kit review. "Daedalus HE 4/S4 and Top Gun Heinkel HD 19/J4" 4 pages including reviews of the kits. "Italeri H21 Shawnee" one-page kit review. "The Swedish Albatross" 2 pages including a page of scale drawings. #33 Spring 2000 (30 pages) "Lockheed C-130E TP 84 84001" 4 pages including side- and plan-view drawings. "Vidse's Jet Ranger" 3 pages on colorful Swedish 'copter including 3-view drawing. "Danish Air Force Draken RF35 AR-109 in 'Christmas Present' markings" 2 pages including side- and top-view drawings. "Building the Saab Draken First Prototype" 5 pages on modifying the Airfix kit including a 2-view drawing and conversion sketches. "The Boeing B-17F and G in ABA Service" one page list of aircraft converted by SAAB.

FINLAND

FINNISH AIR FORCE SPECIAL INTEREST GROUP, c/o Niles R. Treichel, Ludigstr. 13, 27432 Bremervoerde, Germany. Entirely in English. No. 14 (10 pages) "Magister: Part 2" one page with drawings of the special markings applied to FM-38. "Singular Spad" 2 pages including a 2-view drawing of 1.D.445. "Was this Necessary?" 2 page on building the MPM 1/48-scale Morko Morane including several sketches. "Who was First?" 2 pages on Finnish Albatross B.II including a 3-view drawing.

IPMS-MALLARI (IPMS Finland, PL 798, 00101 Helsinki 10; 6 issues \$20.00, no check accepted due to the high redemption costs).

4/1999 #132 (16 pages) "Messerschmitt Bf 110 Zerstrorer" (Part 2) 3 pages on Luftwaffe 110s in Finland including 3 photos.

SUOMEN ILMALIIHISTORIALLINEN LEHTI (InScale 72, Makelankatu 5B10, 00550 Helsinki; Europe \$30, elsewhere \$35; payment by International Postal Order or in cash; no cheques accepted because of high redemption rates). Each issue in-

cludes a 2-page English summary.

4/1999 (24 pages) "Folland Gnat Mk.1" (Osa 3) 6 pages including 9 photos and sketches of interior details from technical manual. "Airspeed AS.10 Oxford in Finland" 5 pages including 3 photos and a page of scale drawings. "HLeLV 34 in Defense of Kotka 1943-44" 4 pages including 5 photos. "Old Log Books: Aarne Tirkkonen" 3 pages including 6 photos. "Memories of LLv 12" 3 pages including 4 photos.

1/2000 (24 pages) "Blackburn B-25 Roc in Finnish Markings" 6 pages including 5 photos and two 4-view drawing. (Ed. This is no joke.) "Lauri Nissinen: Mannerheim Cross Holder" 4 pages including 5 photos, victory list, and 4 side-view drawings (Fokker D.21, Buffalo, & Bf 109G. "Finnish AF Analysis of Operations 1939-44" 6 pages including 9 photos (Curtiss Hawk, Pyry (with large white crosses on the wings), Fiat G.50, Ju 88, Storch, Hurricane, & Fokker C.X). "4th Imperial Russian Naval Aviation Station at Helsinki in 1915" 2 pages including map and 3 photos (Farman HF.16, M-1, & Deperdussin TT). "Cherokee Arrow" 2 pages on use of Arrow by the Finnish AF.

FRANCE

AERO JOURNAL, Aero Editions, 50 bld Paul Valery, 32500 Fleurance, France. Complete English translation of the two leading articles. US\$ 40.00 including air mail for one year (6 issues). Visa and Mastercard accepted. E-mail: aerjournal@infonie.fr.

#11 Fev.-Mars 00 (72 pages) "Ein Reich, ein Volk, ein Jager" 16 pages (plus 6-page English translation) on the history of the He-162 including 11 photos, one color 5-view drawing, 11 color side-view drawings, 2 maps, and 4 tables. "SBD chez les Kiwis" 4 pages (plus 2-page English translation) of RNZAF SBD including 5 photos and 4 color side-view drawings). "Desastre en Russie" 8 pages on German invasion of Russia including 10 photos and 13 color side-view drawings (I-153, I-16, LaGG-3, MiG-3, Il-2, Bf 109F, Me 110E, Ms 126B, Ju 87B, & Fi 156C). "Avions d'assaut" 3 pages including 11 color side-view drawings (II-2m3, NA A-36A, Ju 87D, Bre 693, Hs 129B (Romanian), Hs 1213B (Spanish), Ki.51 Sonia, Breda Br 65, Su-2, L-N411, & Douglas DB-8A (Dutch)). "Les as de l'aviation" 4 pages including 2 photos and color 2-view drawings of Pakistan Sabre and Indian Hunter. "Les Espagnols sur le Front Est" 8 pages on the Legion Azul including 8 photos and 4 color side-view drawings (Bf 109 & FW 190). "Au service de l'ennemi (4): Les chasseurs de la RAF" 8 pages on RAF fighters in Luftwaffe markings including 10 photos (Hurricane, Gladiator, & Spitfires) and 4 color side-view drawings (Hurricane, Spitfire, & Typhoon). "La chasse française 1939-1945 (12): Le CG II/3" 7 pages including tables on aircraft, bases, victories, etc. and 10 photos and 8 color side-view drawings (MS.406, D.520, & P-47D). "Le Falco maltais" one page on an Re 2001 shot down over Malta including side-view drawings of victim Re 2001 and victor Spitfire V.

AVIONS: Toute l'Aeronautique et son Histoire (LELA PRESSE, 29 rue Paul Bert, 62230 Outreau, France. 420F for 12 issues).

#82 Decembre 1999 (68 pages) "Le Groupe de Chasse III/6 en 1939/1945" (2eme partie) 8 pages including one color drawing and 22 photos of D.520 in Vichy markings. "La Bataille d'Angleterre vue par la 227.I.D." 5 pages including 14 photos of Bf 109. "Les Spitfires dans le ciel sovietique" 10 pages including 18 photos and one color side-view drawing. "Les Avions Avro au Portugal" 6 pages on

Portuguese Tutors and Ansons including 10 photos and 8 color side-view drawings. "Messerschmitt Bf 110 contre Messerschmitt Bf 109 en Suisse" 7 pages including 15 photos and 5 color side-view drawings (Ms 406, Bf 109, & Bf 110). "Juste un mot sur les matricules militaires francaises (1925-42)" 7 pages including 22 photos. "Les unites de seconde ligne de la Luftwaffe en France (Janvier-aout 1944)" (2eme partie) 8 pages including 14 photos and table of aircraft losses.

#83 Fevrier 2000 (64 pages) "Les hydravions embarques sur sous-marins" (1ere partie) 11 pages including 32 photos (H-B W 20, Caspar U.1, Yokosho 1-Go, Parnell Peto, Macchi M.16, Cox-Klemm XS-1, Martin MS-1, Loening XSL-1, Chet-verikov OSGA-101, Macchi M.53, Piaggio P.8, Besson MB.35, MB.410, & MB.411). "Fernand Jacquet: L'As aux Lunettes" 6 pages including 15 photos of Belgian ace and his MF 11 and MF-11bis). "Victoire sur Blenheim" 6 pages including 9 photos of Free French Blenheims and a color cover painting. "Pilote a l'Escadrille Blanche" 510 pages on Romanian women pilot's during WWII including 27 photos (Jungmann, Messerschmitt M.35, Monospar, & RWD-13) and 3 color side-view drawings of RWD-13. "La premiere tentative de traversée de l'Atlantique (1926): L'echec du Sikorsky S-35" 6 pages including 9 photos. "le Groupe de Chasse III/6 en 1939/1945" 6 pages including 20 photos (D.520). "Blackburn Shark" (1ere partie) 8 pages including 19 photos and 3 color side-view drawings. "Le Fokker G.1A: Maquette MPM au 1/72eme" 3 pages including 9 photos of the model.

#84 Mars 2000 (64 pages) "Pilote a l'escadrille blanche" (2eme partie) 7 pages on Romanian female ambulance pilots during WWII including 23 photos (RWD 13). "Des occasions en or pour Staline ou les avions allemands en URSS" 8 pages on German a/c sold to the USSR before WWII including 14 photos (Bf 110, He 100, Ju 88, Do 215, Bf 109, Fw 58, & Bu 131). "Les hydravions embarques sur sous-marins" 14 pages on submarine-borne a/c including 39 photos E6Y1, E9W1, E14Y1, & M6A1), 3 color side-view drawings, and color cover painting. "Les NA 16-4P de l'Aviation de l'Armee Argentine" 4 pages including 14 photos. "Robert Savary: un constructeur français de province" 8 pages including 16 photos of pioneer a/c. "Le Blackburn Shark" (2eme partie) 6 pages including 16 photos and color 3-view drawing of RN a/c. "L'impact d'une chanson" 5 pages on Romanian Hurricane ace including 12 photos.

JETS: Toute l'Aeronautique Moderne (LELA PRESSE, 29 rue Paul Bert, 62230 Outreau, France. 420F for 12 issues).

#49 Janvier 2000 (54 pages) "Unites operationnelles de la Force Aerienne Phillipinnee en 1999" 2 pages with table and 9 photos. "Pean 99" 7 pages including 13 photos (F8P, Etendard IVP, Alize, Super Frelon, & Alouette III). "Festival Aero 99" 4 pages including 13 photos of Ecuadorean aircraft (Kfir, Strikemaster, Turbo Mentor, Jaguar, Twin Otter, HS 748, Sabreliner, Jet Ranger, & Bell 230). "La BA 112 de Reims" 8 pages including 19 photos (Mirage F1CR, Mirage F1B, Mirage F1C, Flamant, Magister, Noratlas, & Vautour). "L'Alsace en Corse" 7 pages including 25 photos (Mirage F1B & F1C). "T-33 a la feuille d'erable" 7 pages including 16 photos of Canadian CT-133 Silver Stars. "La Force Aerienne Grecque" 5 pages including 10 photos (Mirage 2000EG, F-16, Mirage F-1CG, & A-7H Corsair).

#50 Fevrier 2000 (54 pages) Color photos: Argentine Alouette III and UII-III Ilucy. "Les derniers Mirage IV" 4 pages including 8 photos. "Morane-

Saulnier Paris en Argentine" 8 pages including 24 photos and table of individual aircraft. "A-10 Thunderbolt II" 7 pages including 24 photos and a 2-page 1/72-scale 4-view drawing. "Les Breguet Atlantique italiens" 6 pages including 16 photos. "La JBG 32 Lechfeld" 6 pages including 12 photos of Luftwaffe Tornados. "Le Vought F-8H Crusader en service aux Philippines: 1978-1988" 3 pages including 9 photos. "Maquette: F-84F Thunderstreak" 3 pages including 9 photos of model.

#51 Mars 2000 (54 pages) Color photos: Chilean Puma in UN markings for East Timor. "But the fight must go on" 8 pages including 19 photos of French F-8E(FN) Crusaders. "La Force Aerienne Equatorienne" 6 pages including 15 photos (Kfir, Mirage F.1, Jaguar, Strikemaster, A-37B, T-33, Bell 212, TH-57, & C-130B). "A-10 Thunderbolt II" 8 pages including 11 photos and a 2-page cutaway drawing. "Des F-18 de l'Otan en Italie" 7 pages including 13 photos (Canadian and Spanish). "La vie de l'escadron de chasse 02/12 'Pacardie'" 7 pages including 15 photos (Mirage 2000). "L'aviation de la Republique de Macedoine" 3 pages including 7 photos (Mi-17, UTVA-75, & Zlin-242).

GERMANY

MITTEILUNGEN (IPMS Germany, Bergengruenstrass 5-7, D-1000 Berlin 38; 12 issues DM 60.00 Europe, DM 65.00 USA, DM 70.00 Japan, DM 75.00 Australia).

5-99 (40 pages) "Leutnant Heinz Ewald 'Esau'" (Teil 2) 4 pages including 6 photos and 2 pages of drawings of his 109 G-6.

6-99 (40 pages) "Oberstleutnant Egon Mayer" 4 pages including 3 photos and 3-view drawings of his Fw 190 A-2-3.

1-2000 (40 pages) Nothing of small air force interest.

ITALY

JP-4 (JP-4, CP 1550, 50100 Firenze; L 27.000 Europe, L 30.000 elsewhere).

#11 Novembre 1999 (100 pages) "Aeronautica Militare en 'Allied Force'" 8 pages including 15 photos. "Da Nemica ad Alleata" 6 pages on the Polish Air Force in NATO including order of battle and 12 photos. "Starfighter in Vietnam" 4 pages including 7 photos.

#12 Dicembre 1999 (100 pages) "HAL: Il colosso aeronautico Indiano" 8 pages including 21 photos (Jaguar, Ajeet, Marut, Mirage 2000, HS-748, HPT-32, MiG-21, Kiran, Alouette II & III, PT-2, Do-228, MiG-27, and HJT-36). "Occhi' francesi per 'Allied Force'" 6 pages including 16 photos of French Mirage IVP. "I prime Jet MiG" 5 pages including 18 photos (I-250, I-270, and MiG-9). "SLAD 99" one page including 5 photos (Yak-130, Su-25, & Slovak L-29).

#1 Gennaio 2000 (100 pages) "L'Accademia Croatia" 3 pages including 8 photos (UTVA 75, Pilatus PC-9, Bell 206B, Mi-8, An-2, Kraguj, & CL-215). "Addio Mirage 'Alpino'" one page including 5 photos.

NETHERLANDS

MODELBOUW IN PLASTIC (IPMS-Nederland, PO Box 40082, NL-8016 DB Zwolle). Now with English captions and summary.

4/99 (32 pages) "Maak van Arramanches 'onze' Karel Doorman" 9 pages on converting the Heller kit into the Dutch aircraft carrier including 14 photos of the carrier and several sketches. "Chili vloog met PR.9 Canberra" 6 pages on building a Chilean Canberra including 4 photos of aircraft

Beneficent Big 'Boats of British Columbia

The Martin JRM Mars Water Bomber

Bill Devins

When the Glenn L Martin Company assigned the appellation Mars to their massive new patrol bomber design after the start of WW II, they might have had the red planet in mind, as it is often the largest object in the night sky. More than likely, the popular image of the Roman god of war, protector of the armed forces, inspired the name. With the change in role of Martin's Mars to a long-range transport, the name no longer seemed apposite. But now, with the last two of these giant flying boats having spent more than thirty years, or nearly four times their USN service lives, fighting forest fires in British Columbia, another facet of Mars's importance to the Romans seems totally apropos: he was the protector of forest creatures and patron of those who worked in the forests and cleared the land.

How these flying behemoths successfully managed such a radical career change so late in life is a strange and wonderful tale. After 87,000 hours of accident-free and often record-setting service with Transport Squadron VR-2, running a shuttle operation between NAS Alameda, California and Honolulu, Hawaii, the "Big Four" were mustered out of the USN in 1956. For three years they sat idle on the vast seaplane ramp at Alameda. Coincidentally, in the midst of those years, a series of devastating fire seasons reached their peak in the forests of British Columbia, which are largely coastal but often on steep, nearly unreachable mountain slopes. The lumber companies had suffered through growing losses in valuable timberland, increased firefighting costs, and enough panic to prompt the MacMillan Bloedel, the industry giant, to call an emergency meeting. They formed a Fire Protection Committee to reappraise all existing fire defenses and recommend changes.

Dan McIvor, MacMillan Bloedel's chief pilot and an old hand at fighting fires from the BC skies, outlined the situation to the committee. Dry conditions permit a new blaze to spread over five acres in about fifteen minutes. A fire allowed to spread unchecked much longer can become a raging inferno, nearly impossible to stop. Massive floods of water are imperative in early control of such fires, but delivery to remote, inaccessible areas with existing water-bombing aircraft was inadequate. McIvor became convinced that only very large flying boats would have the speed, range, and above all the water carrying capacity to achieve the results he envisioned.

In 1959, spurred by his vision, Dan McIvor started combing the world for recently retired aircraft fitting the bill. Size was the object, and the bigger the better; unfortunately, the day of the great flying boat had passed quite a few years before. Pan Am couldn't help; all of their Boeing 314 Clippers had long since been wrecked or broken up. BOAC's monster Princesses were retired, two of the three never having received their ten turbo-prop engines, which turned out to be maintenance nightmares, anyway. Sunderlands, Mariners, Solents - all were either unavailable or irreparable. McIvor was exasperated, until an old bush pilot pal of his mentioned that he'd heard the USN was disposing of their fleet of Mars flying boats in California.

Buoyed by the lead, McIvor immediately started a string of phone calls which eventually put him touch with a Navy spokesman at NAS Alameda. The planes were for sale - that was the good news. The bad news was that bids closed the next day and

no new bids could be accepted. McIvor refused to come so close and surrender. Instead, he convinced Mac Blo to send him, an inspection team and some engineers from Fairey Aviation to Alameda to examine the surplus 'boats. The were awed. Although inactive for three years, the huge machines were in excellent condition.

The Navy had agreed to put McIvor in touch with the successful bidder; this turned out to be a scrap metal dealer who had bid the grand total of \$23,650 on four machines the USN had paid \$3.5 million each to purchase! After a conversation with the scrapper, McIvor was convinced he could obtain the planes for 25 grand apiece. Submitting a glowing report and recommendation, McIvor was crushed when Mac Blo management turned it down. Despondent but unwilling to admit defeat, he stalled the scrapper and cajoled the Navy (the first 'boat had to be removed 90 days after the original sale) while soliciting the help of a company accountant. The two finally developed a revised submission that Mac Blo executives accepted, albeit somewhat reluctantly. Meanwhile, the Navy was holding a "fire sale" at Alameda, the only old Mars base. When 35 spare Curtiss R-3350 engines came up for bids, McIvor wanted them all; Mac Blo let him bid for six at \$135 each (they would ultimately spend \$600 per to recover the remaining engines from another scrapper later). They also bid successfully on a quantity of engine parts and 5,000 spark plugs.

Once the personnel at NAS Alameda discovered that McIvor and his team intended to keep their beloved 'boats flying, many doors opened up. Retired pilots, engineers, and mechanics were found for hire by the Canadians; over \$2 million in indispensable spare parts was sold to McIvor's company for \$3,200; a roomful of file cabinets, the complete Mars technical history, was donated to McIvor's team. Finally, on 8 August 1959, Marianas Mars became the first Mars to touch down on Canadian waters. Lt Cmdr David Maloney, a 2,000-hour Mars command pilot, trained McIvor and performed all the ferry flights. By 12 September, Hawaii Mars had joined her three sisters in Patricia Bay. The easy part was over.

MacMillan Bloedel had gathered five other timber companies and orchestrated the formation of Forest Industries Flying Tankers Ltd to operate the soon-to-be fire bombers. Dan McIvor, the only man in Canada certified to fly the Mars, was named chief pilot. Another pilot, Bud Richmond, a flyer with significant multi-engine time but little bush-flying experience, was hired. McIvor organized ground and air training at FIFT's new Sproat Lake base, while Fairey began converting Marianas Mars at Pat Bay.

Almost all interior fittings were stripped from the big transport to allow for the installation of a single 7200-US gallon fiberglassed BC Douglas Fir water tank, the new heart of the Mars. A pair of retractable stainless steel probes just behind the step permit the Mars pilot, step taxiing at precisely 72 knots, to fill the tank in an amazing 26 seconds; the entire refill procedure, touchdown to takeoff, is accomplished in about 45 seconds! Dump doors were built into the fuselage sides, enabling the whole 60,000 lb load to be loosed at once. Most of the avionics, hydraulics, pumps, compressors, etc, were upgraded or

replaced.

More than 18 months of frustration followed - the once-retired aircraft seemed to be rejecting the advances of their new owners. Serviceability was poor, and when the Mars did get into the air, it proved to be a handful. Designed for sedate long-range transport missions, the huge airplanes were not used to the low-level maneuvering that their new role would require of them. Power-assisted controls were a novelty when the Mars was first conceived, so her massive control surfaces are linked by chains directly to the control column; the pilot's muscles provide the power which moves them. The 60-foot ailerons are not even servo-assisted. Often both pilots have to exert all their energy just to manhandle the wheel while maneuvering.

McIvor decided that standard aerial fire-fighting procedures would have to be followed if the big water-carriers were to be effective. A fire controller on the ground would coordinate with an airborne "bird dog", in FIFT's case an experienced fire-fighter flying a 1944 Grumman Goose, who would act as a spotter and course plotter for the heavily-laden, unwieldy flying boat. Safety dictated that the route chosen would take the Mars downhill towards the fire and away in a descending route into an open area, if possible. Optimum ground saturation occurred when the Marianas approached a fire from behind at 115 mph, 150-200 feet above the surface. At this speed, the "sling-shot" flung water load would be sucked right into the vortex created by the ravenous conflagration, soaking three to four acres.

Of course, wheeling an 81-ton monster carrying 30 tons of water at treetop level into a slopeside forest fire scene, with smoke and turbulence created by the fire affecting flying conditions, was not a transport run. Practice would be essential, but during the summer of 1960, a recalcitrant Marianas more often than not refused to take to the air. Precious little flying was accomplished. Conversion work on Carolinas continued at Fairey, but she would not be ready until the next season; fortunately, no major fire outbreaks erupted that summer.

In April 1961 McIvor was applying himself to Richmond's training when the government decided his eyeglass lenses were no longer suitable for flight qualification - he had three weeks to finish the training before he himself was grounded! Hesitantly, he certified Richmond and on June 23 Marianas Mars had her first callout. Engine trouble caused her return to base; after repairs she at last appeared on the scene, now pretty much under control, and made a token, but historic, first drop in anger for FIFT.

That same afternoon, another callout had the Mars in the air again. Inexplicably ignoring the "bird dog", Richmond turned Marianas directly uphill into the fire area. No drop was seen; the port wing fell in the apparent beginnings of a steep turn. The tip clipped the trees, and 111 tons of metal and water cartwheeled into the mountainside. The four crewmen never had a chance; the massive port wing, hung up in the treetops for years afterward, served as their memorial.

After all he'd been through, McIvor realized that his experiment was operating on borrowed time. One more problem and Mac Blo would pull the plug. Execution was stayed as Carolinas became operational and McIvor got his license back after an appeal. Frequent callouts to small fires kept him busy but unfulfilled - the Mars really hadn't been tested, and the timber companies were beginning to wonder if FIFT had been worth all the expense and sacrifice.

Finally, early in the danger season of 1962, a fire broke out

on the shore of Cowichan Lake that looked like it could turn into a bad one. On a steep slope, the blaze was creating its own updraft and it was racing uphill. Ground teams hadn't yet broken through when McIvor and Carolinas Mars burst overhead. McIvor saturated the upper perimeter with his liquid cargo and immediately put down on the lake to recharge his airborne fire extinguisher. He dumped this load across the base of the blaze, and followed the fire up the hillside with six subsequent drops. Banking in with a ninth delivery, the fire controller called him off. The fire was out, totally and solely drenched by Caroline Mars. And there was a bonus - a professional photographer had captured the action.

Only two days later, McIvor was looking down at another conflagration at the head of Ramsey Arm that threatened to rage out of control. Wind-toppled dry cedars at the water's edge, protected by a canopy of 14-foot mature trees, had started to burn violently. Calculating carefully, bringing Caroline in below treetop level, McIvor used the "sling-shot" launch to send 7200 gallons cascading into the burning windfalls. The gigantic prostrate logs jumped and rolled, and mature trees snapped as successive 30-ton water loads hit the burning forest. After six drops, the downed trees were no longer burning. Two hours and 22 drops in, the fire was completely doused.

Caroline Mars became an overnight sensation, and everyone wanted into the act. A formerly tentative MacMillan Bloedel suddenly reveled in their proprietary control of FIFT. A vindicated McIvor and Caroline continued a successful fire season. But during the winter layover period, a freak storm cost FIFT dearly. Hurricane Frieda raced across the tarmac at Pat Bay where Carolina Mars was hawsed on -inch steel cables. Straining against the wind at the storm's height, the cables parted and the huge aircraft slewed across the concrete, rose and dropped in a crunching din masked by the typhoon's rising crescendo. Dawn brought a sad sight; bent and mangled, with her hull split wide open, Caroline was nothing but a foud memory and a source of spares.

Her memory served FIFT well, however, as the timber conglomerate quickly decided to shell out the money necessary to convert Hawaii Mars and Philippine Mars into flying tankers. This time, an additional 10-foot tall, 28-gallon tank was fitted inside each machine's hull. This would hold a powdered thickening chemical which helps compact the water, makes it more slippery, retards its evaporation, and enables it to cling to the timber better.

Frieda's winds, in destroying Caroline Mars, seemed to finally blow away the black cloud that had dogged FIFT since its inception. As 1963 opened, the new age for FIFT began. Dan McIvor left his beloved 'boats in the care of Bill Waddington, the new general manager, who was succeeded by Tom Irving in 1986. Irving runs the operation to this day. His main charges, Philippine Mars and Hawaii Mars, first wheeled out of Fairey's repair shops in 1963, are still in A-1 shape thirty years later thanks to careful use, continuous maintenance, and lots of tender loving care. The company, touch and go for nearly 20 years, is in better financial shape than ever before.

After the loss of the Marianas, McIvor demanded that future Mars pilots have a minimum of 7000 hours, an unprecedented amount, of flying time in and around the coastal areas of British Columbia; multi-engine experience could come later, since the Mars demands a whole new set of flying skills anyway. As a result, the four current FIFT senior pilots form the most

exclusive flying club in the world. Each of them gets only about 100 hours a year behind the big wheel of a Mars; they all wish they could have more. All also fly the venerable Goose, which still performs "bird dog" chores for her big sisters.

Mars has more than proven its value in the fire-fighting role. FIFT may quell as many as 40 blazes a year flying the Mars, with 15 major fires saturated annually, using an average of some 250 drops totalling 1,872,000 gallons. McIvor's insistence on a huge aircraft able to drop a big volume of water in one shot has been justified. It would take more than five of the purposed-designed CL-215s, which came along 8 years after FIFT's formation, to bring the water of one Mars to bear on a forest fire. The record is 37 drops - 1180 tons - in a single five-hour sortie. Today, especially if there is a smokey overcast, a large red object might be discerned moving purposely across the British Columbia skies. Neither a planet nor a forgotten god, it is Mars nonetheless; Mars the water-bearer, celestial protector of the forests.

References:

Feast, A M. "The Gentle Giants of SProat Lake", Unknown Magazine 1987?..

Gouldthorpe, K. "Dan McIvor's Mars Mission", Air&Space Smithsonian, Oct-Nov 1983.

Green, W. Flying Boats - Vol 5, War Planes of the Second World War, Garden City NY: Doubleday 1962.

Munson, K. Flying Boats and Seaplanes Since 1910, New York: MacMillan 1971.

Welch, N D. "Flying Boat Fire Fighter", Aviation News Vol 15 No 24, 17-30 Apr 1987.

Various pamphlets, photos, clippings; information provided by T Irving of FIFT in letter dated 16 Dec 1993.

Bill Devins (SAFCH #557), IPMS/USA Seaplane SIG, 358 Arbor Rd., Lancaster, PA 17601-3204, USA.

MARTIN JRM MARS - AirCraft 1/144 Vac-form.

A few years ago Peter Wells of AirCRAFT Models told me had always liked the Martin Mars, but he wasn't sure he was ready to tackle such a large subject, even in 1/144 scale. But a "flood" of coverage of FIFT's Mars water bombers inspired him to move his plans for kitting the big 'boat off the back burner and into high gear. We now have the results of his inspiration and perspiration, and his doubts about producing a large model have been dispelled - the new AirCRAFT Mars kit is exceptional in all respects!

Although marketed in two versions, #416/USN JRM1 and #417/FIFT JRM3, the plastic and metal parts are identical in both kits; only the decals and instruction sheets differ. The major components are molded into a pair of sturdy 71/2 x 111/2-inch 60 thou sheet of crisp white plastic. The surface detailing on the airframe parts is nothing short of amazing - it is some of the best I have ever seen on a vac-form kit. The fuselage is covered with fine raised panel lines, and the tail surfaces feature excellent rib scribing. The immense wings also have raised scribing, with rivet detail aft of the main spar location. All this paneling may seem superfluous in this scale, but the sheer size of the model (17-inch span) demands some form of surface detailing to negate a plastic blob look. Control surfaces, tabs, and hinges are all crisply molded and combine with the panel scribing to give this model the look of an injection-molded kit.

Oil coolers and air scoops are molded as single channels on the vac sheets; when cut and separated they form accurate components with a minimum of fuss. As the nacelle centerlines are above the wing chord line, an extra millimeter of plastic is molded on the nacelle bottoms which extends below the wing sanding surface. Trying to preserve this extension will require careful sanding between and around the nacelles on the lower wing; I recommend sanding the entire wing mating area on a flat surface, and shimming the 1 mm back in with scrap after the wing halves are cemented together. The wing roots are a potentially weak area which may require some care and attention.

As is the AirCRAFT custom, two very neat and clear canopies are provided. These are molded in a type of polystyrene which can be bonded with plastic solvents and polished, as opposed to other types of clear vac-form plastics. This will be handy, as the clear part replaces the entire cockpit area, and will need to be faired in. If you don't feel up to this challenge, the basic moldings are accurate and windows can be cut out and glazed or added with paint or decals. The front side windows on FIFT machines should be bulged. Except for a couple of neat DF loops for the USN version, the remaining white metal parts are all for the cowlings and propellers. Four full cowlings attach to the vac-formed nacelles, which improves their strength and appearance. Each prop hub has 4 separate blades. These tiny parts are smartly cast, but some care will be needed in handling them due to their size.

The models' paper parts are as impressive as the plastic and metal moldings. The huge 12 x 17-inch instructions incorporate full-size plans, profiles, and templates for a couple of bulkheads; a sheet of scrap is provided for creating these pieces. In addition to the drawings, the instructions provide detailed assembly explanations, decorating notes, a brief history, and list of references. The written instructions are very helpful; make sure you read and follow the assembly suggestions. Considering the size of these kits, the decal sheets are pretty small, but they incorporate all the markings required for one USN incarnation of Hawaii Mars (#416), and three red/white FIFT versions (#417), with names and registrations for both C-FLYK Philippine Mars and 'LYL Hawaii Mars in a scheme applied fully forty years after the USN coloring. The decals provided will allow you to create any number of FIFT schemes to add to the three specified in the plans.

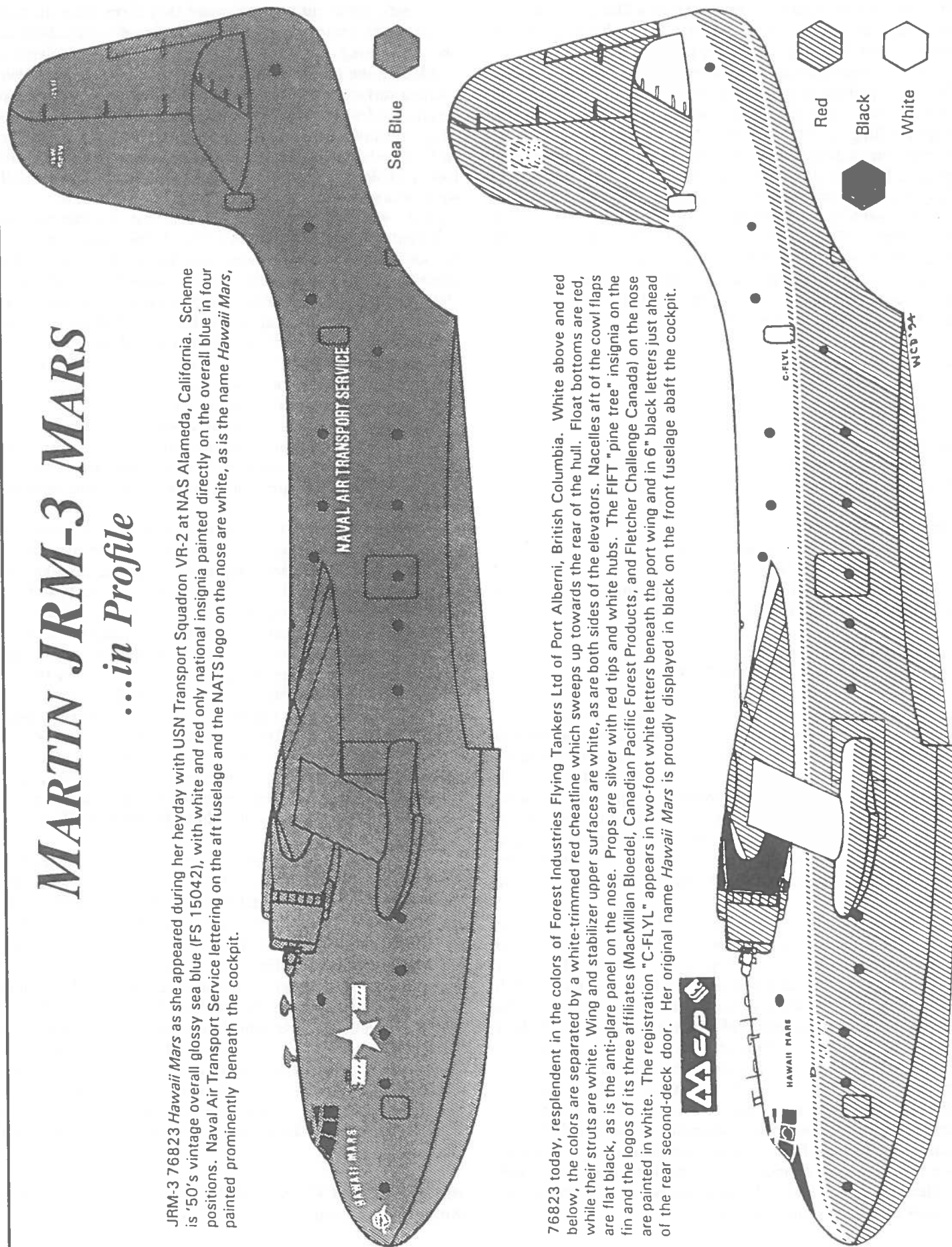
With these new kits, AirCRAFT has advanced the state of the art in vac-form kits. Absolutely first-rate research, engineering, molding, detail parts, instructions, and decals combine to put the Peter Wells' JRM Mars kits among the most well-presented limited run model kits ever. Peter Wells has greatly exceeded expectations with these kits. They are entirely self-contained; you can create a beautiful and accurate replica straight from the parts and information provided, without the need for any further investment in detail parts, markings, or references. Either kit is available for 16.99 plus 15% postage direct from AirCRAFT at Stables House, High Street, Swineshead, Bedford MK44 2AA, UK. In the USA, Precision Enterprises Unlimited, PO Box 97, Springfield VT 05156, should be able to supply these excellent kits. This is definitely the way to go if you want a Mars replica in your collection!

Bill Devins (SAFCH #557), IPMS/USA Seaplane SIG, 358 Arbor Rd., Lancaster, PA 17601-3204, USA.

MARTIN JRM-3 MARS

...in Profile

JRM-3 76823 *Hawaii Mars* as she appeared during her heyday with USN Transport Squadron VR-2 at NAS Alameda, California. Scheme is '50's vintage overall glossy sea blue (FS 15042), with white and red only national insignia painted directly on the overall blue in four positions. Naval Air Transport Service lettering on the aft fuselage and the NATS logo on the nose are white, as is the name *Hawaii Mars*, painted prominently beneath the cockpit.

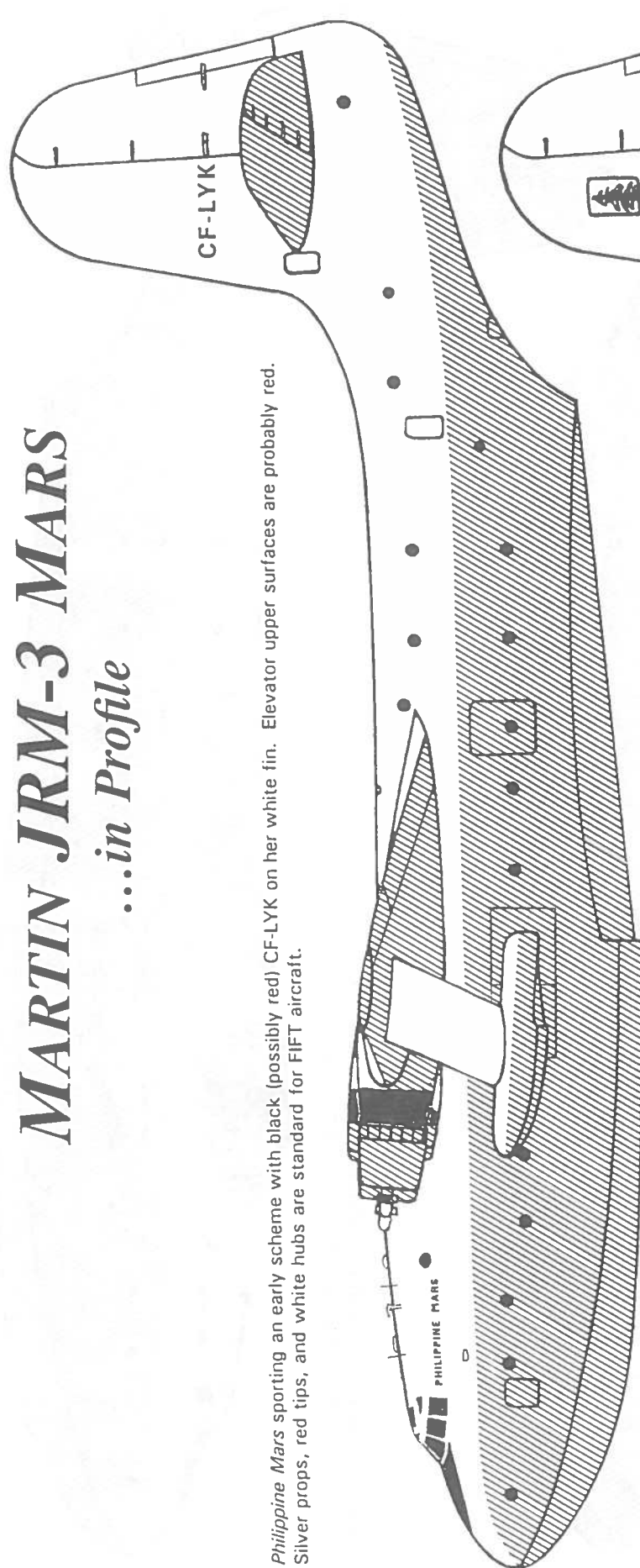


76823 today, resplendent in the colors of Forest Industries Flying Tankers Ltd of Port Alberni, British Columbia. White above and red below, the colors are separated by a white-trimmed red cheatline which sweeps up towards the rear of the hull. Float bottoms are red while their struts are white. Wing and stabilizer upper surfaces are white, as are both sides of the elevators. Nacelles aft of the cowl flaps are flat black, as is the anti-glare panel on the nose. Props are silver with red tips and white hubs. The FIFT "pine tree" insignia on the fin and the logos of its three affiliates (MacMillan Bloedel, Canadian Pacific Forest Products, and Fletcher Challenge Canada) on the nose are painted in white. The registration "C-FLYL" appears in two-foot white letters beneath the port wing and in 6" black letters just ahead of the rear second-deck door. Her original name *Hawaii Mars* is proudly displayed in black on the front fuselage abaft the cockpit.

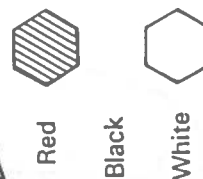
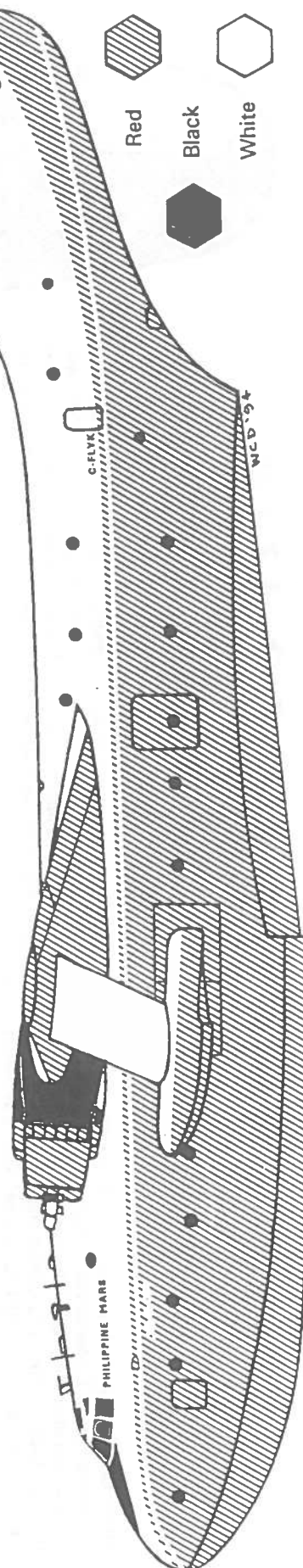
MARTIN JRM-3 MARS

...in Profile

Philippine Mars sporting an early scheme with black (possibly red) CF-LYK on her white fin. Elevator upper surfaces are probably red. Silver props, red tips, and white hubs are standard for FIFT aircraft.



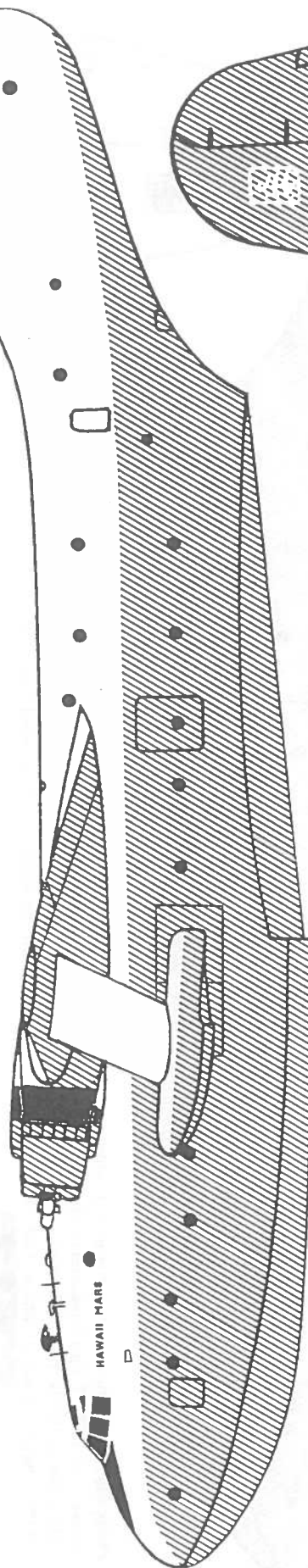
Philippine Mars in the current scheme with additional white-trimmed red cheatline, small black registration ahead of the rear door, and black nacelles. A red FIFT logo is painted on the white fin, with white individual company logos (MacMillan Bloedel, Fletcher Challenge Canada, and Canadian Pacific Forest Products, shown enlarged), under the black name *Philippine Mars* each side of the front fuselage. FIFT has installed bulged forward cockpit side windows on their Mars aircraft for improved downward visibility.



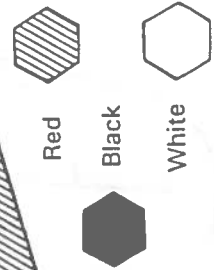
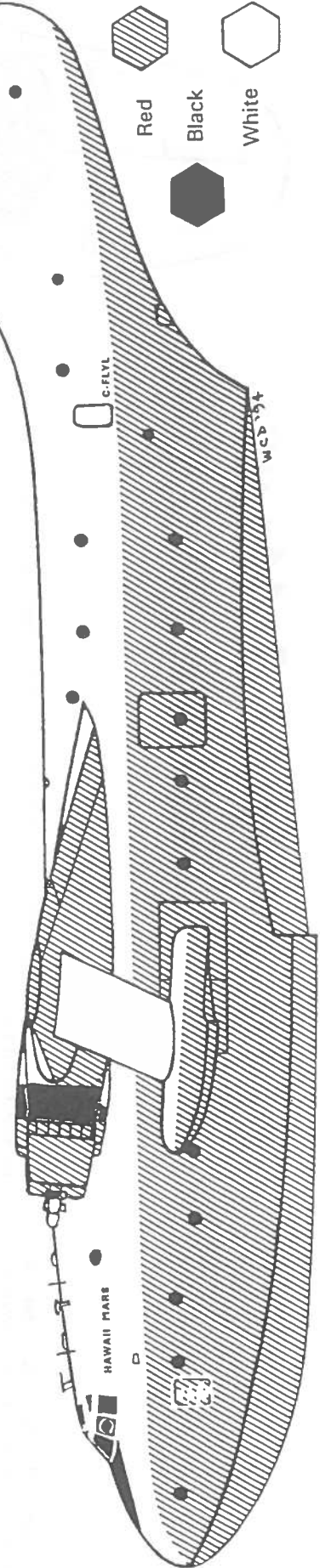
MARTIN JRM-3 MARS

...in Profile

FIFT's CF-LYL *Hawaii Mars* in an early 1970's livery. The white above/red below color scheme was applied when the Martins were first refurbished by FIFT; *Hawaii Mars* received a red fin, while *Philippine Mars* retained a white one. Here the rudder appears in white, with large white registration letters beneath the port wing and on the fin. Elevator tops appear to be red. The section of each nacelle between the cowl flaps and the wing leading edge is flat black, as is the triangular anti-glare panel ahead of the cockpit. Later, 'LYL's rudder was painted red and a white FIFT "pine tree" logo was added on the nose beneath the cockpit.



'LYL *Hawaii Mars* circa 1983 with white FIFT logos on the nose and fin. The registration is applied in small black characters just aft of the second-deck rear door, and her name is retained on the upper cabin sides.



Irish Air Corps Gladiators

Alex Crawford

In 1937 the Irish Air Corps initiated an expansion and re-equipment program. A treaty with Great Britain in 1936 meant that Ireland could only purchase aircraft from Britain. As the Royal Air Force was in the process of re-arming, this left very little in the choice of aircraft. Four Gloster Gladiator MkIs were ordered from Gloster Aircraft Co. Ltd. At the time of placing the order, the Gladiator was considered to be a modern fighter, but within the space of two years it was made obsolete due to the arrival of the more superior monoplanes such as the Spitfire, Hurricane, and Messerschmitt Bf109.

The Gladiators were built at Hucclecote in England and delivered to Baldonnel Aerodrome on 9 March 1938 and were given serials 23, 24, 25 and 26. They served with 'B' Flight, First Army Co-Operation Squadron. A few months after their arrival, on 2 June 1938, No. 26 suffered a landing accident and spent the next two years in the repair shop. On 23 October 1938, a second aircraft also crashed on landing; this time it was damaged beyond repair and scrapped. The pilot, Lt Higgins escaped with minor cuts and bruises.

A further four Gladiators were ordered and allocated serials 27-30, but these were never delivered due to the high demand placed on Glosters for aircraft for the RAF and Fleet Air Arm. The British Air Attaché in Dublin, on behalf of the Department of Defense, ordered a further batch of four aircraft. These would have been allocated the serials 57-60, but Britain placed an arms embargo on companies selling military hardware to Ireland, so these were never delivered.

The remaining two Gladiators spent the most part of 1939 on training programmes and military exercises. During 1939, the First Army Co-Operation Squadron was renamed No. 1 Fighter Squadron and, on the eve of the Second World War, consisted of the following: 2 Gladiator MkI, 2 Avro 636, and 6 Westland Lysanders.

During July, the third Gladiator, No 26, returned after being repaired. For the next two years the Gladiators, along with most of the Air Corps, were in a state of constant readiness to intercept any foreign aircraft that over-flew neutral Ireland. Although the Gladiator was the fastest aircraft in the Air Corps, it had great difficulty in intercepting the majority of the intruding aircraft. Many of the pilots could only watch as the intruder opened up their throttles and pulled away from the slower biplanes. The Gladiators did engage some worthwhile targets, however. These were barrage balloons that had broken from their moorings and drifted across the Irish Sea from England. These gave the Irish pilots valuable target practice.

In June 1940, the British Government promised to provide military equipment, including eight Gladiators and other aircraft if Ireland came into the War on the side of Britain and her Allies. If this offer was accepted, it would have left Ireland wide open to attack from Luftwaffe bombers at a time when the Air Corps had no modern aircraft with which to defend itself.

During the course of the Second World War, over 200 Allied and German aircraft made forced landings on Irish soil. The Gladiators may have intercepted some of these aircraft. It must be remembered that the Gladiators top speed, when new, was only 250 miles per hour, which was slower than most of the aircraft it was trying to intercept. Aircraft in service would be lucky to reach 200 miles per hour. One Irish pilot remarked: "The

only way to catch an intruder was in a dive and even then, if the other pilot saw you, he just increased power and left you behind. When you went into a dive in one of those biplanes the wind would shriek and howl through the rigging. There were times when I thought that the aircraft would fall apart."

In the middle of 1941, the Gladiators moved to Ballinteer, near Navan, on a temporary basis. This was to monitor British troop movements on the border with Northern Ireland. The aircraft flew up to eight hours a day and were serviced at night.

During the early part of 1943 the British Government supplied Ireland with Hurricanes and these gradually replaced the Gladiators in No 1 Squadron. The Gladiators had by now become worn out and suffered from serviceability problems. The first aircraft to be retired was No. 25, which went in August 1943. No. 26 went a few months later while No. 24 soldiered on until January 1944 when it was destroyed in a crash.

Irish Air Corps Gladiators

Serial	Delivered	Fate
23	9 March 1939	Crashed near Baldonnel, Lt Higgins injured, 23 October 1939.
24	9 March 1939	Crashed at Celbridge, January 1944
25	9 March 1939	Scrapped 1943
26	9 March 1939	Scrapped 1943
27-30		Not delivered
57-60		Not delivered

Colours and markings

When the Gladiators arrived in Ireland, they had a light green fuselage and tail fin with silver wings and tail plane. The spinner and cowling were polished metal. The aircraft number was in white on the fuselage and black under both wings. The rudder carried green/white/orange stripes and these were repeated above and below the wings.

As the Gladiators were serviced, they returned to Squadron service with a new colour scheme. This consisted of a brown/earth camouflage pattern on the upper surfaces of both wings and tail and also on the fuselage. The undersurface of the wings and fuselage remained silver. A green and orange Celtic boss was now carried on the upper wings and fuselage sides; the stripes remained under the wings. Aircraft serial numbers were now in black on the fuselage sides and under the bottom wings. The Gladiators also carried the Squadron badge, which consisted of an orange circle with a black Leopard's head with two scrolls underneath. The top scroll read BEAG ACT FIACH-MAR (Small but Fierce), the bottom scroll read No.1 Fighter Squadron.

Acknowledgments

The author would like to thank the following for providing information contained in this article: Sgt Eddie MacCulloch from the PR Section of the Irish Air Corps and Joe McDermot of the Irish Aviation Historic Council.

References

"Wings over Ireland" by Donald MacCorran and "The Irish Air Corps, A History" by Anthony P. Kearns.

Alex Crawford, 22 Castle Crescent, Kennoway, Fife, Scotland,

The Story of the Gloster Gladiator in Luftwaffe Service

Andy Thomas and Peter Green

Much has been written over the years about the service of the last of a long line of biplane fighters from the Gloster stable - the Gladiator. In addition to extensive service with the RAF and Fleet Air Arm, the type won a number of overseas orders and was thus seen in the colours of Air Forces as far apart as Norway and Nationalist China - the later being well recounted in a recent issue of SAFO. However, recently some notes were shown to the authors about the Gladiator in service with Hitler's Luftwaffe! The authors gratefully acknowledge the original work done by Karl Kossler which has opened up a previously unknown line of research, the results of which are given here in the hope that readers may be able to add further information.

The Luftwaffe's Gladiators seem to have been Mk Is with fixed pitch wooden airscrews and were employed by *Ergänzungsgruppe (S)1* from Langendiebach near Hanau during 1942-3. *Erg.Gr.(S)1* ['S' for *Schlepp* = towed] was a training Gruppe giving primary and operational training for assault glider pilots. Training was mainly conducted on the DFS 230 glider. For glider towing duties, the unit used a wide variety of types including German Arado Ar 65s and Heinkel He 46s, Czech Avia B 534s and the larger Letov S 328, and at least 10 Gladiators. The latter were usually described as 'Glosters'.

To have operated the Gladiators at virtually squadron strength, it is likely that the Luftwaffe acquired the type in such condition as to enable their regular use. In addition, it would be probable that at least some spare parts would also have been available. Within *Erg.Gr.(S)1*, it would appear that the various glider-towing aircraft were used by each of the four Staffeln, rather than being concentrated into individual Staffeln. Photographic and log-book evidence has identified six aircraft by unit code which supports this conjecture. Known codes are: NJ + BO, 1E + BL, 1E + DK, 1E + JM, 1E + PH, and 1E + SH. Four *Werke Nos* (Wnr) allotted to Gladiators by the Luftwaffe have so far come to light (45710, 45717, 45826, & 45829) and would seem to indicate that the 'Glosters' may have been taken into service in two batches, though this is speculative.

So, from where had the Luftwaffe got its 'Glosters'? Before WW2, Glosters had met with some success in selling the Gladiator overseas and in many cases these were encountered by the Luftwaffe during the first years of the war. The RAF lost or abandoned numbers of the type (mainly Mk IIs) during the campaigns in France, Norway, and Greece, but it is unlikely that more than one or two would have been salvaged by the Germans, even if they had been required. So too for those Gladiators used by the Norwegian, Belgian and Greek Air Forces, since the fate of almost all of these is known. Thirty examples, again Mk IIs, were supplied to Finland during late 1939, but again the fate of all these is well recorded. Two other prewar sales were made by Glosters to European customers and it is almost certain that the Luftwaffe's Gladiators came from amongst these examples.

Gloster's first export contract for the Gladiator was an order for 26 Mk I aircraft from the Baltic state of Latvia which had sold its 11 surviving Bristol Bulldogs via a Czech agent to the Spanish Nationalists in early 1936. The Latvian Government then placed their order for Gladiators which were specified to be armed with four 7.7mm Vickers Mk V machine guns. Interestingly, the aircraft were purchased from the proceeds of a

public lottery (a possible means of the RAF getting the EF 2000?!) and, perhaps, the funds from the Spanish Bulldog sale. Bearing the Latvian AF red-swastika markings and serial numbers 101 to 126, the Gladiators were delivered by ship to Riga between August and November 1937. After testing and assembly they were used by a fighter unit for the defence of Riga and based nearby. The survivors, numbering around 20 aircraft, must have been taken over by the Soviets when they annexed the Baltic States of Latvia, Lithuania and Estonia in mid 1940. Some, at least, it seems were used in the area by the Soviet Red Air Force and thus bore the red star of the Soviet Union! When Hitler unleashed Operation Barbarossa against the Soviet Union in June 1941, the Baltic states were quickly overrun by the Germans and amongst the various war booty captured were, it appears, a number of Gladiators.

In 1980, an ex-Luftwaffe pilot who had served with *Erg.Gr.(S) 1* recalled the "Glosters" arriving at Langendiebach by rail in a dismantled state in 1942. He stated that they wore Soviet stars, but once these were removed "Finnish" swastikas became evident. As the Finnish aircraft are all accounted for, it is virtually certain that these were ex-Latvian aircraft. At this stage of the war, Finland was fighting alongside Germany against the Soviet Union. It is likely that Luftwaffe personnel would be aware that Finnish aircraft were identified by a blue swastika, but less likely that they would realize that the prewar Latvian Air Force used a red swastika, so it is easy to see how an incorrect assumption could be made. Within the US National Archives in Washington is a captured document listing the war materiel captured by the Luftwaffe by September 1 1941 amongst which was listed 13 Gladiators. Eleven of these were recorded as 'condition I/II' and two in 'condition III'. It is probable that spares such as Mercury engines were also captured. On available evidence, including known delivery dates, it is now almost certain that some, if not all, of the Luftwaffe's Gladiators came from the ex-Latvian contract.

However, there is a potential second source. Shortly after the Latvian Government placed its order for Gladiators, the Government of the neighbouring Baltic state of Lithuania placed an order for 14 aircraft. These too were delivered by ship during 1937 and were used by the Lithuanian Air Force from Vilnius and Kauna, bearing Lithuanian AF serial numbers G701 to G714. Although speculative on our part, it is quite likely that the survivors of these would also have been taken over by the Soviets after annexation. These too may possibly have fallen relatively undamaged into German hands and some of them been amongst those delivered to Langendiebach in 1942.

The fates of these 40 Gladiators delivered to the Baltic States in 1937 is interesting and perhaps some readers in Eastern Europe can shed further light. Of the Luftwaffe Gladiators themselves, four are known to have been destroyed or significantly damaged in service with *Erg.Gr.(S)1* during 1942-3. The survivors were all authorized for deletion from the Luftwaffe inventory on 16 March 1943.

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Yugoslav Dornier Do 17K

Bradić Srećko

[Author's note: My previous article on the Yugoslav Do Y was well accepted and I received several nice letters from SAFO readers. Since it is clear that there are many enthusiasts interested in Yugoslav aviation, I will continue to provide SAFO with material based on historical research and archive material.]

The story of the Do 17K, the export version of Do 17 for the Royal Yugoslav Air Force, begins on 19 November 1935 when the prototype Do 17 was demonstrated to Yugoslav officials. In response to Yugoslav interest, the Germans submitted an offer in August 1936 and a contract twenty Do 17K was signed on 9 November 1936. Later technical discussions altered many details of the original project.

The contract required that the first planes be delivered by 9 May 1937. However, numerous problems delayed the delivery until 25 October 1937. The 20 planes from the first block were of the Ka-1 version and had production numbers from W.Nr. 2381 to 2400. All of these planes were ferried from Germany to Yugoslavia.

With war clouds looming in Europe, the Yugoslav government searched all over Europe for more combat aircraft. In September 1937, the German government responded with an offer of fourteen Do 17 Type A (the same as in the first order) and two new Do 17 Type B. The Yugoslav representatives complained that the price was much higher than for the first order, but the Germans refused to back down. An order was finally placed and the second batch of Dorniers were delivered in February of 1939. This batch of Do 17K had production numbers from 2461 to 2476. (During the delivery of the planes from first order, one Do 17K had been lost by German error and that plane was replaced during the delivery of second batch.)

For the total of 37 Do 17K delivered from Germany, the Yugoslavs paid 7,139,995 Reich Marks; of this 3,823,207 RM was for first block and 3,316,788 RM was for the second batch. Dornier provided unarmed planes which the Yugoslavs then armed at the VTZ (Vazduhoplovno Tehnički Zavod - Aeronautical Technical Facility) in Kraljevo. Initially, all planes from the German delivery were equipped with French Darne 7.7-mm machine guns.

The Dorniers enter Service in Yugoslavia

Skoplje and the 3.vazduhoplovni puk (3.aeronautical regiment) became the home of the Do 17K. The first task was to train crew in a new type of plane; the Do 17K was the first twin-engine plane in Yugoslav service. The Do 17K became officially operational in 1939. One of the first operations planned for the Do 17Z was a tour of Germany by the whole regiment, but the beginning of the Second World War cancelled that idea.

The German-produced Dorniers entered in service with the 205, 206, 208, and 209.eskadrila (squadron) of the regiment. In the 1939, two new squadrons were formed: 207 in 63.grupa (group) and 210 in 64.grupa. The 3.regiment then had six squadrons divided into two groups. There were plans for a future 65.grupa with dive bombers, but these plans were never realized. (By official orders, the 3.vazduhoplovni puk should have 57 operational planes and 18 more in reserve.)

During their early service, two Dorniers were lost in accidents (possibly aircraft #1 and #17). Another plane was damaged during a forced landing. Repairs to the plane's

propellers and undercarriage cost 22,223 Dinars which was paid on 27.12.1939. Some sources report that this plane was intentionally damaged as part of a series of structural tests by Yugoslav engineers. The same sources claim that the plane was secretly repaired in Hall B of the factory at Kraljevo where improvements and modification were tested that were later applied to the Yugoslav-built Do 17K.

During Yugoslav service, problems were experienced the wheels. On 15.10.1939, 80 wheels were ordered from the "Electron" company in Germany. Otherwise, the serviceability of Do 17K fleet was good partly because of the transfer of a number of technicians along with three hangers from Kraljevo to Skoplje.

The Licence-Built Dorniers

During the negotiation for delivery of the Dorniers from Germany, the Yugoslavs expressed interest in the licence production of these planes. The Germans sold the licence for the production of Do 17Ks, but under the stipulation that the planes would be made only by persons sympathetic to Germany. The Yugoslavs were forced to accept these terms since their need for modern war planes was acute. Because of this restriction the State Aircraft Factory (DFA) at Kraljevo was able to produce only two Dorniers a month. This, despite the fact that DFA's organization, equipment, workers, and technology were comparable to the leading aeronautical industries of the world.

The factory at Kraljevo began licence-production of the Dorniers with a first batch of 36 Do 17K on 15 May 1939. By the beginning of the April War in 1941, they had delivered 30 Dorniers with six more in the final stage of assembly. Production consisted of three blocks. The first block consisted of 16 planes while the second and third block consisted of ten planes each. The first block was manufactured strictly according to the German documentation, but the following planes were modified with structural improvements and improved bombing mechanisms. These modifications were tested in Hall B of Kraljevo factory from which the Germans were excluded. While the Germans protested, but also stole the technical details and upgraded the bombing devices on their own bombers. On 30.01.1941, arrangements were made for the production of 40 new bombers; possibly Do 215 with in-line engines, but no further details are known about these unfulfilled plans.

Technical Details

There were several versions of Do 17K used in Yugoslavia. The German-built machines were delivered in three versions: Ka-1, Ka-2, and Kb. The Yugoslav-built machines were also built in three versions. The first models Ka-1 and Ka-2 were based on the Do 17E and had the underside of the wing partially fabric covered. The principal role of the Ka-1 was as a strike bomber while that of the Ka-2 was a reconnaissance bomber. The offensive loads of the two versions were the same: eight internally-carried Stankovic bombs of 106 kg with two additional bombs on external racks (2 x 200 kg or 2 x 106 kg) on the Ka-1 only. The machine guns in the nose of the Ka-1 were replaced by a camera pack on the Ka-2. Initially, all German-produced Ka-1s had Darne machine guns installed, but these were later replaced by Belgium FN machine guns. Later, the Ka-2 was upgraded to take

one FN machine gun in the nose. The ammunition capacity was 250 rounds per Darne and 600 rounds per FN gun. The Do 17Kb was a more comfortable plane to fly since it had cockpit heating and heated de-icing equipment on the leading edge of the wings. On this version, the wings were completely metal covered and the bomb load and guns were the same as on the Ka-1. The engines on Kb were spaced further out on the wings than on the Ka and 15 oxygen bottle for crew were carried.

All DFA-produced Do 17 were Kb models and all of them has defensive machine guns mounted in the starboard side of the windshield. There were three types of offensive loads: twelve 90-kg bombs, sixty-four 12-kg bombs in two internal D-23 containers, or eight 106-kg bombs. There were plans for a container to carry a cluster of 2-kg bombs. Payment of 300,000 Dinar was appropriated for the production of these containers and the "Würf" system was operationally tested in early 1941 (one Blenheim was also used in these trails). A batch of containers were delivered at the beginning of April 1941. In later service, planes fitted with D-32 containers received one more container inside the bomb bay to raise the total war load to 96 small bombs.

On DFA-built planes had guns mounted in four positions. One was in the starboard side of the windshield, one in the port side of the nose, one in the dorsal position, and one in the belly. The first block had FN 7.9-mm machine guns in all positions. But, with the second block, modifications were made. It may be that first series of second block had identical gun equipment as the first block, but the second series of second block received FN 13.1-mm machine guns in the windshield while the nose remained without armament. The third block had machine guns in all positions with 10.2-mm FNs in windshield and, possibly, cannon in nose. Cannons were in storage at DFA and the statements of many former employees of that company claim that cannon with drum barrels were mounted in the DFA's Do 17Kb.

The Do 17Kb with D-32 containers was intended for low level attack and this version had a reinforced structure. The last block had noticeably extended nacelles possibly to carry more fuel. It is possible that the first series of the second block were reconnaissance-bombers and for this reasons the nose gun was replaced by a camera. At least one example served in 208.reconnasiane-bomber squadron. All versions had German electric equipment: Telefunken 274F radio, 128-H range finder, R-63N radio compass. The last block had Askania directions finder. Maximum speed of DFA-built Do 17Kb was 440 km/hr.

Markings and Camouflage

All planes were camouflaged in the German export color scheme with paints produced by I.G. Farbe Industrie. These were semigloss nitro paints: Pomoeianisch (Pompeian Red Brown) Zug Grün (Dark Grey), Gleb (Yellow Ochre), and Silber (Silver). The paints was applied by using templates and the edges were soft on German-produced planes. The undersides were painted Silber, but the nacelles and engine cowling were painted in a special silver paint resistant to the heat and oil. The interior of the undercarriage bay received an extra coat for further resistance to oil and heat. The colors for the national insignia were Weiss (White), Zinober (Crimson), and Kobalt Blau (Cobalt Blue). The national insignia consisted of Kosovo crosses 1260 mm in diameter on the wings in four positions and a wide tricolor flag on the outer sides of the vertical rudders.

On DFA-built, there was a sharp demarcation between

colors. The first two blocks had Silber undersides which, in the third block, was replaced by Hellgrau (Light Grey). The first block had national markings identical to the German examples. Beginning with the second block, reduced visibility insignia were introduced: one small insignia (770 mm in diameter) on the upper surface of the port wing, one large insignia (1500 mm in diameter) on the underside of the starboard wing, and narrow flags on the rudders. All planes were converted to these new marking.

All inscriptions were in Cyrillic script painted in gloss black. The number of the plane was painted on the vertical fin. Up through the first block of DFA-produced Dorniers, this number was two digits, but in later production machines a four digit number was assigned.

The 3.regiment took an active part in many exercises and the crews were prepared for combat. In the event of war, according to order R-41, the unit would attack targets in Bulgaria south of the Balkan mountains with the possibility of attacks on northern Bulgaria and Albania. Because of the very tense political and military situation, the unit was on alert from 03.04.1941. The April War began on 6.04.1941, at which time the 3.regiment had 61 Dorniers; 31 in 63.group and 30 in 64.group.

The Dorniers in the April War

The war began for the Yugoslav Dorniers at 0450 hours when three Luftwaffe Stukas strafed AA positions at Skoplje Air Base. This attack was soon followed by an assault in which fourteen Dorniers of 63.group were destroyed on the ground. Two planes escaped (other sources state four) to join 64.group in Kosovo which had not been attacked. The Vice Commander of 3.regiment, Major Žikić, immediately ordered counter attacks and at 0907 hours more than 30 bombers tookoff to hit targets in Bulgaria including the capital, Sofia. In this attack, the plane of Lieutenant Smiljkovic was damaged and was written off after it returned from the mission. During this same day, the Luftwaffe returned to destroy the remaining planes at Skoplje. At the end of the first day of combat, only 64.group remained in existence.

Two additional attacks were made by Yugoslav Dorniers on 6 April, both on German columns in area of Kriva Palankja and Custendil. A reconnaissance Do 17K made one sortie over Bulgaria. After the attacks, the planes of 64.group landed in Pec and Stubol. The Luftwaffe found the aircraft at Stubol and destroyed five planes on ground.

Before noon on 7 April, the Dorniers made three low-level strikes on German armor at Stracin. During this attack, the plane of Lieutenant Simović, Do 17Ka-1 #13, was damaged and burned out after landing. Around 1800 hours a reconnaissance aircraft found a German column approaching General Janović village. The Yugoslav Dorniers attacked and slowed the German advance. The next day, at 0500 hours, the column was again attacked in front of Kačanik. At this time, the Regiment had 17 operational Do 17K. The next attack was two hours later when the unit again hit the Germans at Kačanik. During the day, the Dornier piloted by Sergeant Telan was shot down.

On the morning of 9 April, the unit destroyed its documents and the remaining planes, made one attack, and flew to a new airfield at Preljina. One plane was returned to the DFA for repair. Until 10 April, the DFA had delivered two new planes to the regiment. Under the influence of Yugoslav Communist Party propaganda, the crews of three planes tried to fly to the

Yugoslav Dornier Do 17Ka-2

In support of 3.bomber regiment role against targets in Bulgaria, the activities of Do 17Ka-2 reconnaissance aircraft were very important. Fourteen of these machines were divided into two squadrons, one for each group within the regiment. Basic information was provided by vertical photos, but 206.squadron of 63.group was equipped for taking oblique photos. Possessing organic recon units greatly enhanced 3.bomber regiments ability for independent action.

Type:
Medium range reconnaissance or day
night bomber with 3-man crew

Dimensions:

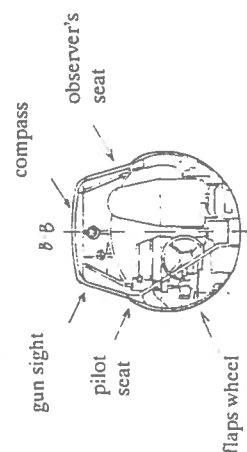
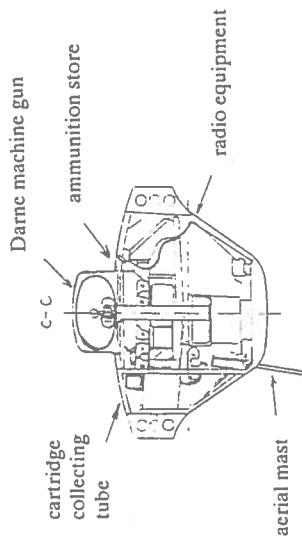
length - 16480 mm
wing span - 18000 mm
tail-plane span - 5648
wing area - 55 sq m
overall height - 4350 mm
wheel track - 5000 mm

Weights:

empty weight - 4660 kg
take off weight - 7000 kg
total fuel - 1880 l
main fuel tanks - 2 x 700 l
fuselage tank - 480 l
maximum take off weight - 7500 kg

Power Plant:

type - air cooled radial 14 cylinder
double row Gnome Rhone 15K, port engine
14K N011, starboard engine 14K 010
take off rating - 770 hp
Cruise rating - 850 hp at 2280 rpm at 3850 m
maximum rating - 870 at 2400 rpm at 3850 m

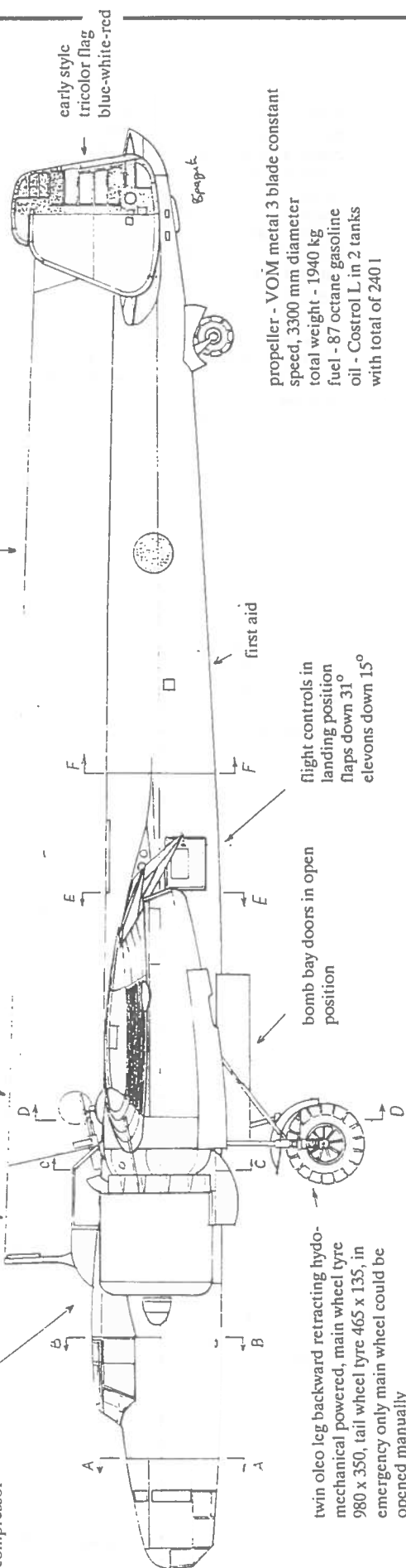


Disc indicated 64.group
(triangle for 63.group)
Different colors are used
for each squadron: red for
for recon units. Disc was
440 mm in diameter

range finder
loop antenna

defence bow

Gnome Rhone 14K power plant
equipped with high-altitude
compressor



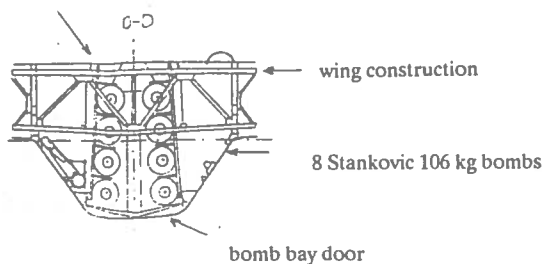
Performance:

maximum level speed - 438 km/h at 3850 m
 maximum dive speed - 510 km/h
 maximum cruise speed - 417 km/h
 absolute ceiling - 9000 m
 service ceiling - 3200
 climb rate - 6000 m in 10 min
 combat radius - 1438 km or 4.38 hrs
 ferry range - 1780-2000 km
 take off run - 400 m
 landing run - 350 m

Armament:

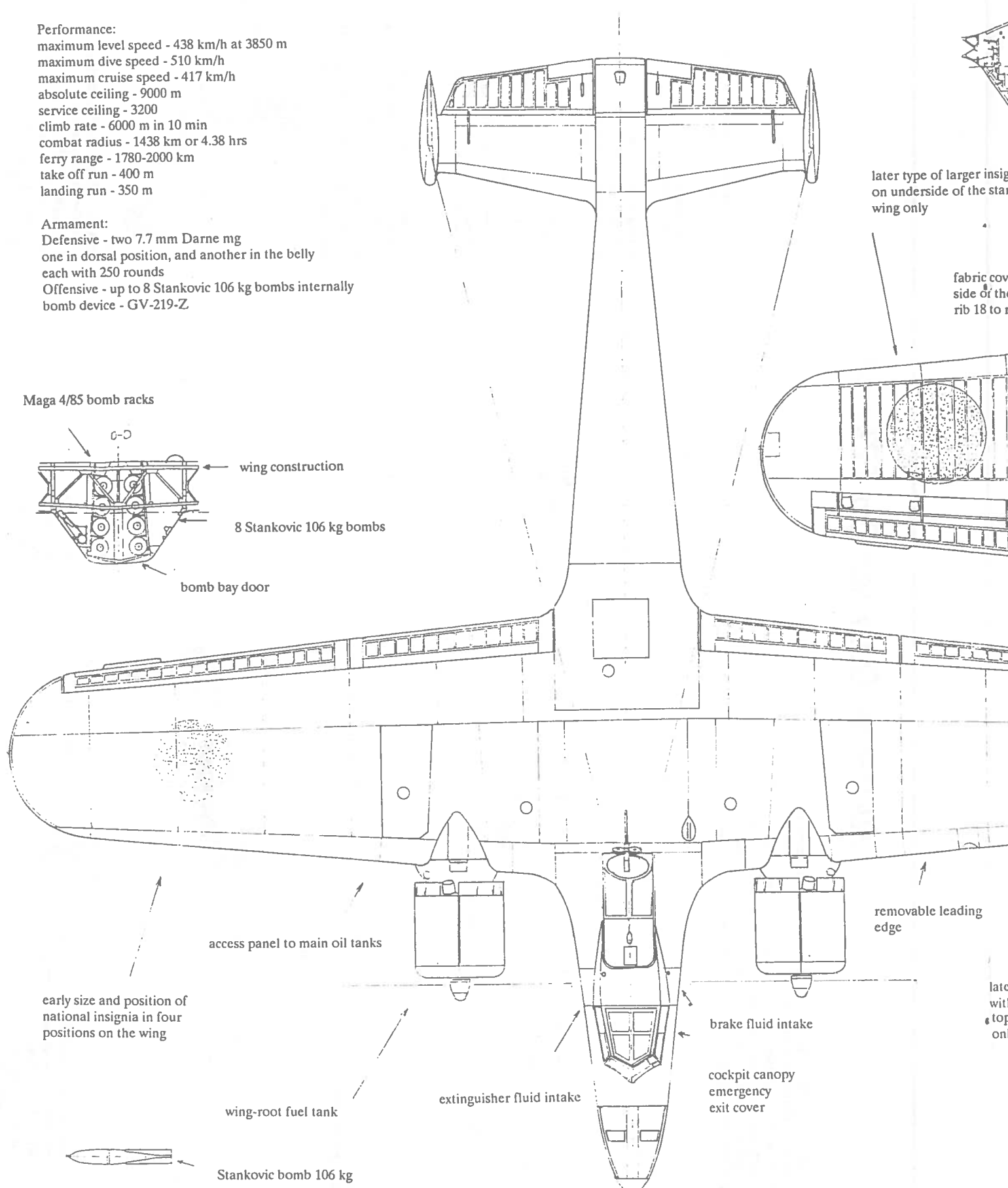
Defensive - two 7.7 mm Darne mg
 one in dorsal position, and another in the belly
 each with 250 rounds
 Offensive - up to 8 Stankovic 106 kg bombs internally
 bomb device - GV-219-Z

Maga 4/85 bomb racks



later type of larger insignia
 on underside of the star
 wing only

fabric cover
 side of the
 rib 18 to 20



USSR. On 10 April, two of these were destroyed in Romania and a Ka-2, #33 from 208.squadron, forced landed in Hungary.

Bad weather curtailed operations on the 11th, but on 12 April German troops in area of Čupreja-Jagadina-Kragujevac and Kragujevac-Topola were attacked. At least two attacks were made on enemy units in the Čaprija-Jagodina area. For these attacks, the Dorniers used 106-kg and 12-kg bombs which were dropped from low level. The plane piloted by the Commander of 64.group, Major Fanedl, was shot down by AA and one Do 17K received 17 hits. After the attack, this latter aircraft was flown to Kraljevo for repairs and pilot picked up a new plane - last Dornier to be delivered to the regiment

When the war began, two Do 17K were at the Combat Weapons School in Mostar and one at another School close by. Two unidentified persons attempted to fly the Do 17K from the School to join the Regiment in South Serbia, but they were shot down and killed.

On 10 April, the Commander of the 3.regiment, Colonel Gorjup, was ordered to appear before a military court to answer questions about his management of the regiment. To escape punishment, he forced Lieutenant Kovandžić, in Do 17Kb #35, to fly him to Zagreb (some sources say to Mostar) where Gorjup joined the newly-established Croatian State. Dornier #35 was impressed into the Croatian Air Force.

Beginning on 14 April, the Dorniers took part in the evacuation of the King and other important persons from Nikišić airfield. Seven Do 17K flew to Greece and last Dornier, piloted by Captain Miljević, left Yugoslavia on 17 April. One Do 17K was abandoned on Nikišić airfield.

Summary

During the April War, 3.regiment lost four pilots, three observers, nine Sergeants from the ground crew, and two of unknown rank. Two Do 17KM were shot down in the air, four were damaged, one was destroyed during takeoff, two were destroyed in Romania, one forced landed in Hungary, five were destroyed in Greece, and two joined the RAF in North Africa. One Do 17K (a Kb from the first DFA block) was captured at Mostar and evaluated by the Italians. The Germans found three Do 17 at the DFA where they were in a final state of assembly. These aircraft were later delivered to Croatia.

Today, nothing exists from the 75 Do 17K built and only one Dornier pilot is still alive at the end of the millennium. November is 60th year since the first Do 17Kb built by DFA at Kraljevo. I dedicate this article to all the known and unknown airmen who died fighting for Yugoslav's free blue sky.

References

This article is based on documents from Yugoslav military archives, Dornier archives, Kraljevo archives, the author's interviews with more than 20 pilots, officer, ground crew, factory workers, and their family members, various issues of magazine "Vazduhoplovni glasnik" of the organization of Yugoslav airmen emigrants in London, various issues of the "Dornier Post" from 1939-38, unpublished studies by the Royal Yugoslav General Staff Officers, Andrija Pavlović including studies of the Do 17K, Yugoslav bomber aviation, the April war, and the DFA. Also used was the research of Bosnić Petar and Miroslav Filipović. Valuable material was provided by ing. Berud Burbas (a former employee at Dornier) and Pentti Manninen from Finland.

Captions for photos on pages 35-36. All photos via the author.

a. This close-up of a Do 17Ka-1 shows the major features of the type: the Gnome Rhone engines and the long nose. The machine-gun openings in the nose are covered and painted over.

b. This in-flight view of 17Ka-1 #2 shows off its clean aerodynamic shape. Note the early style of national markings.

c. The last Ka-1 at the Dornier plant prior to camouflaging. On the belly can be seen the bomb bay and the hatch for the defence position.

d. Skoplje's air base in the summer of 1940 during the visit of General Brasic. The airplane in background is one of the two Do 17Kb delivered from Germany.]

e. Officers of the 3.regiment photographed in front of their new bomber. Previously, the unit had operated Breguet XIX and Potez XXV.

f. Line up of the famous 64.group. The crew are wearing their summer white uniforms. In the background can be seen a Do 17Kb from the first DFA block and in right corner can be seen a Do 17Ka-1.

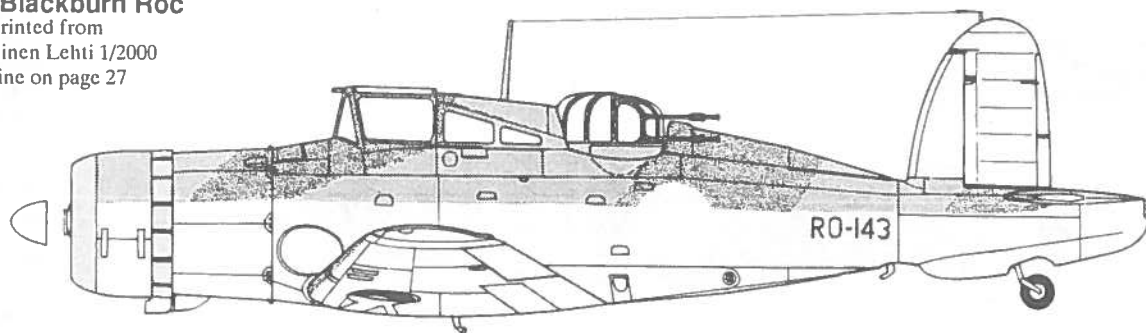
g. Do 17Ka-2 #33 from 208.squadron which crashed landed in Hungary. The crew survived and were taken prisoner. The plane was repaired and used by the Hungarians as a fast reconnaissance aircraft until 1944. The two red discs on the fuselage are of interest.

h. Captain Simo Mijušković (seen in front of his unit's Do 17Kb from the second DFA block) bravely led his 208.squadron in the war. During the war, he engaged and pursued a Ju 87 with his Do 17. His shots missed the target and the more agile Stuka escaped. Captain Mijušević died in London in 1972.

Bradić Srećko (SAFCH #1457), P.F. 39, 37000 Kruševac, Srbija.

Finnish Air Force Blackburn Roc

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Suomen Ilmailuhistoriallinen Lehti 1/2000
See review of this magazine on page 27



Paraguayan Air Force Aerotec T-23 Uirapuru

Antonio Luis Sapienza Fracchia

Due to the many problems and the accidents with the Fokker T-21 (see SAFO #92), the standard Paraguayan trainer in the early 70's, the FAP decided soon to look for a replacement. Since the Brazilian Air Force had a training military mission in Paraguay, the FAP decided to purchase the Aerotec T-23 which was the primary trainer being used in Brazil. The first eight aircraft arrived in 1975 and they immediately replaced the T-21 in the instructional program. They were the following:

First serial (1975)	c/n	New serial (1985)	Destiny
0041	096		w/o 1981
0043	097	0003	wfu 1987
0045	098	0005	wfu 1988
0047	099	0007	wfu 1989
0049	100 (200)	0009	wfu 1989
0051	101 (201)	0001	wfu 1990
0053	102 (202)	0002	wfu 1990
0055	103 (203)		w/o 1983

According to the renowned Brazilian historian, Col. FAB Aparecido Camazano Alamino, the c/n's of the second four aircraft were 100 to 103, but when I inspected the identification plates of those planes, I clearly saw the numbers 200 to 203. Col. Camazano thinks that the planes were, for some reason, re-serialled in the factory before delivering to Paraguay.

The 1975 planes kept the bare metal color scheme with red wing tips and a matt anti-glare panel. The Paraguayan flag colors were painted on the rudder with a yellow star on the white stripe. The Paraguayan roundel was painted in two wing positions only: upper left and lower right, with the serial on the opposite positions on the wings. The serial was also painted in black square-type numbers on both sides of the rear fuselage.

The T-23s were immediately accepted by the instructors and cadets since they were very easy to fly compared to the "Cadet Killer" T-21. The entire T-23 fleet belonged to the Training Squadron of the Training and Transport Air Group (GAET) until 1988 when the GAET was divided in two groups and all the training aircraft were sent to the new Training Air Group (GAE).

The T-23s were used successfully in the GAE with only minor accidents. Only two aircraft, 0041 and 0055, suffered accidents in which the aircraft could not be repaired (but the crews received only minor injuries). In 1985, six Uirapurus were still on strength, and in that year the Brazilian Air Force donated six used T-23 which were completely overhauled before delivering to the FAP. They were the following:

FAP serial	c/n	ex-FAB	Destiny
0010	048	0984	still on strength
0011	054	0990	wfu 1993
0012	056	0992	wfu 1995 (preserved)
0014	058	0997	wfu 1995
0015	061	0998	w/o 1994
0016	062	0998	w/o 1994

As you can see, the serial 0013 is missing and I do not know why. Maybe it was a strong case of superstition, who knows?

The second batch of T-23 were painted differently. The fuselage was painted in light gray with a matt black anti-glare panel on the cowl and the wings and horizontal stabilizers were orange, and the red wing tips were red. The propeller spinner was also painted in red. The serials and roundels were painted as the above described planes. The planes of the second batch were identical to the ones of the first batch, except for the

plexiglas canopies which were wider.

The Cadets used to fly at least 50 hours on the T-23 before getting his pilot wings and graduating from the Military School with the rank of Sub-Lieutenant. Then the primary training program continued until they accumulated at least 130 hours on the T-23 before passing on to the advanced program flying the T-6.

In the early 1980's, the Cadet used to fly in the T-23 first, then advancing to the Neiva T-25 and the T-6, and (with some luck) to the AT-26 Xavante Jet. At the beginning of the 1990's, the FAP started looking for a single replacement for the trio T-23/T-25/T-6. The T-25s and T-6s were officially withdrawn from service in 1991 and in 1992, and 12 Chilean-built Enaer T-35 Pillan were purchased to replace them. The few T-23 still in use were kept in service until 1995 when they were officially retired. One plane, 0010, is kept in flying conditions to the present, and it is being used for demonstration flights. The mechanics who overhauled this T-23 and, with the authorization of the FAP Commander, painted it in a strange camouflage of dark brown, dark green and blue, keeping the serials and roundels, and a tiny Paraguayan flag was painted in the vertical stabilizer. Another plane, 0012 was preserved and belongs to the FAP collection displayed on the side of the main avenue inside Nu-Guazu AFB along with a C-471 a T-25, a T-33 and a T-6. Unfortunately, all the other T-23s were scrapped.

Although not a FAP T-23, there was also a civilian T-23 flying in Paraguay. In 1971, the Civil Aeronautics Authority (DGAC) purchased one T-23 from Brazil for the National School of Civil Aeronautics. It was registered as ZP-EAC and had the c/n 060. This plane was intensively used to train civil pilots and it was wfu in the late 1970's to be replaced by a fleet of Cessna 150s.

Acknowledgements: The author would like to thank 1st. Lt. PAM Jesus Cespedes, Col. DEM Luis Chamorro, T-23 flight instructors of the GAET/FAP, and Col. FAB Aparecido Camazano Alamino, a Brazilian aviation historian for the precious information and photographs for this article.

Captions for photos on page 2. All photos by the author unless otherwise noted.

- Flight Instructor 1st Lt. PAM Luis Chamorro (left) briefing a FAP Cadet before a training flight on a T-23 at Nu-Guazu AFB in 1975. (Col. DEM Luis Chamorro)
- A FAP cadet and his instructor inspecting their Aerotec T-23 s/n 0047 of the GAET prior to a training flight at Nu-Guazu AFB in 1975. (Col. DEM Luis Chamorro)
- Flight line of the GAE's T-23 at Nu-Guazu AFB in 1992.
- T-23 s/n 0005 (ex-0045) at Nu-Guazu AFB in 1989.
- T-23 s/n 0007 (ex-0047) at Nu-Guazu AFB in 1991.
- Aerotec T-23 s/n 0012 at Nu-Guazu AFB in 1992.
- The "strange" camouflage of the last FAP T-23 in flying conditions, s/n 0010, at Nu-Guazu AFB in 1999.
- A T-23 patch used by GAE pilots of the "Primary Squadron" in the early 1990's.

Antonio Luis Sapienza (SAFCH #1160), Casilla de Correo #2721, Asuncion, Paraguay.

Aircraft Losses during the Chaco War

Antonio Luis Sapienza Fracchia

[Author's note: The following information is the result of many years of intensive research during which many documents have been consulted and many veterans have been interviewed. Generally, Bolivian sources tend to "increase" their aerial victories, but their stories are less than credible, maybe to justify their failures because of their lack of knowledge in the tactical use of aviation in combat. Paraguayan sources are somewhat more credible since the Maintenance Chief of the Paraguayan Air Arm, Col. MAM Agustín Pasmor, kept an daily record of all sorties during the war.]

Paraguay

Airplane	Serial	Location	Date	Crew	Remarks
Wibault 73C.1	1	Pozo Valencia	30.11.32	Tte.1 Gregorio Morinigo (unhurt)	Forced landing due to overheating
Wibault 73C.1	2	near Boquerón	30.11.32	Tte.2 Luis Escario (unhurt)	Same as above
Potez 25A.2	6	Saavedra	04.12.32	Tte.1 Trifón Benitez V. (dead) Cap. Ramón Avalos S. (dead)	Shot down by Vickers Scout piloted by Pabón
Waco C	T-13	Isla Poi	03.03.33	Tte. Enrique Déntice (unhurt)	Forced landing
Junkers A-50	T-3	Ñu-Guazú	07.04.33	Tte. Arsenio Vaesken (unhurt) Mechanic Otto Lauber (dead)	Crashed in a training mission
(CANT 26	T-6	Orihuela	05.05.33	Cap. José D. Jara (dead) Tte. Niemann (dead)	Crashed. Accident.
Fiat CR.20bis	11-9	San Salvador	26.05.33	Tte. Walter Gwynn (unhurt)	Forced landing
Potez 25TOE	14	Isla Poí	03.06.33	Tte.1 Teófilo Farina S. Tte.2 Estanislao Arce (both severely wounded)	Destroyed when landed due to the explosion of two bombs
Fiat CR.20bis	11-1	Isla Poí	12.06.33	Tte. Walter Gwynn (dead)	Crashed. Accident.
DH-60 Gipsy Moth	T-1	Ñu-Guazú	15.06.33	Tte. Silvio Escobar (dead) Tte. Alejandro Islas (dead)	Crashed. Accident.
Fiat CR.20bis	11-3	Isla Poí	04.03.34	Capt. Bernardino Caballero (dead)	Crashed. Accident
Potez 25TOE	10	Camacho	12.06.34	Capt. Román García Tte.1 Rogelio Wtcheverry Tte.2 Fernando Pérez (minor injuries)	Forced landing due to fire on board.
Potez 25TOE	13	Capirenda	11.12.34	Tte.2 Arsenio Vaesken Tte.2 Aberlardo Bertoni (minor injuries)	Shot down by two Curtiss Hawks piloted by Alarcón and Beltrán
Fleet 2	E.11	Concepción	05.01.35	Tte. Antonio Esteche (dead) Cadet Lucio Ayala (minor injuries)	Crashed. Accident.

Bolivia

Airplane	Serial	Location	Date	Crew	Remarks
Ford 5-AT-D	Cruz de Villamontes		26.10.32	Donald Duke (dead) Willy Ketman (dead)	Crashed after take off due to overloading
Vickers Vespa	5	Fortín Aquino	27.07.32	Tte. Elías Belmonte Subtte. Armando Saavedra (unhurt and captured by Paraguayan troops)	Shot down by Paraguayan AA
Vickers Vespa	6	Toledo	25.02.33	Capt. Valle (dead) Tte. Ardiles (dead)	Shot down by Paraguayan AA
Juukers F-13	Charcas Ballivian		28.03.34	Tte. José Arzabe (dead) Mec. Serapio Camacho (dead)	Crashed due to strong winds
Curtiss Osprey	30	San Lorenzo	22.05.34	Capt. Alfredo Pascoe (dead) Subtte. Félix Mercado	Crashed during take off

Vickers Vespa	23	Villamontes	08.07.34	(minor injuries) Maj. E. Nery (dead) Subtte. Dorado (dead)	Crashed. Accident.
Curtiss Osprey	78	Florida	12.08.34	Maj. Rafael Pabón Sgt. Mario Calvo (dead)	Shot down by Potez 25TOE #11 piloted by Carmelo Peralta
Curtiss Hawk	30	Puesto Central	26.12.34	Tte. Carlos Lazo de la Vega (dead)	Shot down by Paraguayan AA
Curtiss Falcon	207	Villamontes	12.03.35	Tte. Aurelio Roca (dead) Subtte. Heraclio Melgar (injured)	Shot down by Paraguayan AA
Curtiss Falcon	no serial	Villamontes	19.03.35	Tte. Alberto Montaña (dead) Subtte. Nicolás Rojas (dead)	Shot down by Paraguayan AA

Summary:

Paraguay: Aircraft lost in air to air combat: 2; Aircraft lost due to enemy AA: 0; Aircraft lost in accidents: 9; Total losses: 11. Crew lost during the war: 10. **Bolivia:** Aircraft lost in air to air combat: 1; Aircraft lost due to enemy AA: 5; Aircraft lost in accidents: 4; Total losses: 10. Crew lost during the war: 15

Main Sources: "Aircraft of the Chaco War: 1928-1935" by Daniel Hagedorn and Antonio Luis Sapienza. Schiffer Publication Ltd., Atglen, PA. (1996).

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-accessories-accessories-accessories-accessories-accessories-accessories-accessories-accessories-accessories-accessories-

Cast Resin Accessories. Cutting Edge Modelworks, PO Box 3956, Merrifield, VA 22116, USA. WWW.meteorprod.com.

The following accessories, cast in a dark-grey resin, are completely devoid of bubbles or other surface imperfections. The surface detail is sharp and intricate. The engineering is well thought out so that, with a few unavoidable exceptions, no detail will be lost in removing the parts from their "bench" (or whatever it is called in resin casting). None of these sets include any instructions, but in most cases none should be needed.

Wheels: MiG-15/MiG-15bis/F-2/J-2. 1/32-scale. CEC32036. \$6.00. This set includes the two main wheels and the nose wheel with sharp tread and hub detail. Removing the wheels from the bench will destroy some, but this should be easy to rescribe. **USAF A-4 Gunsight** for F-84, F-86, and many '50s aircraft. 1/48-scale. CEC48170. \$4.00. This set provides two gun sights with sharp detail. A simple, but useful, set.

M116 Napalm Bomb for many '50s and '60s aircraft. CEC48171. \$9.00. This set provides two bombs. They are cut from their benches at the nose and separate nose cones are provided. Also provided are what appears to be two sets of mounting brackets, but some instruction would have been useful here.

Revi 16 Gunsight for late war Bf 109, Fw 190, etc. 1/48-scale. CEC48172. \$4. This set provides two

small, but intricately molded gun sights. Considering that each gunsight is little bigger than a grain of rice, the detail has to be seen to be believed.

A6N Detailed Pilot Seat, fits other Japanese aircraft. 1/48-scale. CEC48173. \$5.00. The two seats provided in this set are well detailed with lightening holes (some of which will have to be drilled out) and molded-in harness belts.

Type A-1CM Gunsight for many '50s jet aircraft. 1/48-scale. CEC48175. \$4.00. Two superbly-cast gun sights with intricate detail.

Black Magic Canopy/Wheel Hub Masks. Cutting Edge Modelworks, PO Box 3956, Merrifield, VA 22116, USA. WWW.meteorprod.com.

This new product is best described by the manufacturer: "Painting clean frame lines on canopies has been a perennial problem for scale modelers. To help you out, Cutting Edge is proud to offer our BlackMagic line of specialized masks. Each BlackMagic set has been exactly test fit to the model it's designed for before it was released for sale, so you can count on your mask set fitting properly. Most canopy mask sets also contain masks for the difficult task of painting the wheel hubs. Many blackmagic sets are available for camouflage patterns (including Luftwaffe spinter schemes), D-Day invasion stripes, large scale insignia, etc."

Each BlackMagic set consists of 9.9 cm by 15 cm sheet of black masking material into which are cut

the patterns of the parts to be masked off. The sections to be used as masks are to be carefully lifted off and applied to the model. After spray painting they are removed to presumably reveal a perfectly straight delineation between frame and clear part. Each set comes in an air-tight plastic envelope and includes a generic instruction sheet outlining the proper use of the masks.

BlackMagic is a nice addition to the modeler's tool box, but remember that each set is custom fit to a particular kit and may not be suitable for use on a kit from a different manufacturer. One each of the following sets available from the SAFCH Sales Service:

P-51D Canopy/Wheel Hub Mask for Airfix kit. CEBM24008. \$7.00.

MiG-15bis Canopy Mask for Trumpeter/Frog kit. CEBM32045. \$6.00.

Ki43 Hayabusa/Oscar Canopy/Wheel Hub Masks for Hasegawa kit. CEBM32048. \$7.00.

MiG-15/MiG-15bis/F-2/J-2 Wheel Hub Masks for Trumpeter/Frog kit. CEBM32049. \$1.75.

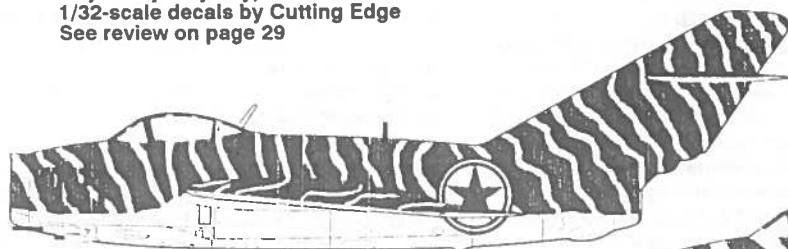
E13 Jake Canopy Mask for Nichimo kit. CEBM48372. \$6.00.

A6M Zero/Hamp Canopy/Wheel Hub masks for Tamiya kit. CEBN48376. \$5.00.

Yak-9 Canopy/Wheel Hub Masks for ICM kit. CEBM48400. \$5.00.

HUP-2/CH-25 Canopy/Wheel Hub Masks for Interavia kit. \$6.00.

North Korean MiG-15bis
Major Major Syomy, Soviet Ace
1/32-scale decals by Cutting Edge
See review on page 29



North Korean MiG-15bis
Major Golshevskij (Soviet Night Fighter Ace)
1/32-scale decals by Cutting Edge
See review on page 29



RED STARS 3: Camouflage and Markings of Russian and Soviet Aircraft until 1941. Carl-Fredrik Geust and Gennadiy Petrov. Kustantaja Apali Oy, Tampere, Finland (1999). Hardback, 184 pages, 16 in colour. ISBN 952-5026-16-7 £27.95

Both authors are well known to readers of books devoted to Russian and Soviet aviation so RED STARS 3 will not be a disappointment. This book fills a long-time void on this little known aspect and it will appeal to researchers, model makers, and enthusiasts alike.

The authors have concentrated on presenting only substantiated facts and avoided the all too frequent "analysis and conclusion" of color from poor photographs where the colour sensitivity of the negative material is unknown; an unfortunate practice of some current specialist magazines. A bonanza of almost 450 black and white photographs (two or three still bearing the original secret classification), the majority with explicit captions in English and Finnish, supported by 16 pages in colour, ten of side views and six pages of emblems and insignia. This is completed by a six-page very-readable and informative overview in English of early Russian and Soviet aircraft heraldry. On page 35, a photo caption suggests a fuselage and wing emblem seem to be "Ace of Clubs". However, earlier research has concluded this is in fact a Georgian symbol and is likely the emblem depicted in colour on page 170. The only disappointing part of the book is the cover. Whilst very colourful and eye-catching, it manifests considerable artistic licence. A Nieuport 17C.1 is about to engage a German Sopwith Triplane-cum-Fokker Dr.I hybrid, neither of which appear to be armed! To achieve the flight attitude of the Nieuport, with both ailerons and elevators in neutral, it may just be possible if caught by a sudden wind gust from port on reaching the top of a zoom climb! This same manoeuvre, and resultant g-forces, may also be responsible for the pilot's appearance of being seated "very deep". A photograph on page 32 depicts this same Nieuport in more natural circumstances.

These Finnish publications are not noted for reprints so if the subject interests you, buy it today. Thoroughly recommended. Available from the Aviation Bookshop, 656 Holloway Road, London, N19 3PD.

Robert J. Ruffle, Russian Aviation Research Group, Air-Britain (Historians) Ltd., 1 East Street, Tonbridge, Kent TN9 1HP, England.

RED STAR #3: Camouflage and Markings of Russian and Soviet Aircraft until 1941. Carl-Fredrik Geust and Gennadiy Petrov. Hardbound. 219 FIM plus postage. Apali Oy, Sammonkatu 64, FIN-33540 Tampere, Finland. E-mail: myynti.sales@apali.fi. Web page: www.apali.fi. This A-4 size hardbound book of 184 pages is a photo book with over 400 b&w photos with captions in both Finnish and English. The photo captions are long and informative, and the photos are large, seldom more than three to a page, and very well reproduced on the highest-quality glossy paper. There are about 41 pages of photos of a/c in the markings of Imperial Russia beginning with early Farman and Bleriot, progressing through Nieuport and Morane monoplanes, Curtiss flying boats, assorted captured German a/c, and culminating with the Nieuport biplane Scouts and Voisin and Farman bombers, while not neglecting indigenous designs by Antra, Sikorski, and Grigorovich. The next 30, or so, pages cover a/c carrying a bewildering array of variation of the red

star used during the civil war; aircraft depicted include more Nieuport Scouts, various Spads and Sopwiths, and an occasional DH-9, Buzzard, Balilla, and Fokker D.VII. The remaining 90 pages of photos follows the development of the Soviet aviation industry up to the beginning of WWII.

There is a 2-page English-language "Overview of Early Russian and Soviet Aircraft Heraldry" and 5 tables on "Imperial Russian Air Force August 1914", "Unit Markings of Russian Air Force, Summer 1917", "Military Aircraft Identification Codes of Imperial Russia", "Aircraft of the Baltic Fleet in WWI", and "Soviet Civil Aircraft Registers".

The book ends with a color section consisting of 6 pages with 136 color drawings of national, unit, and individual insignia and 10 pages with 61 excellent color side-view drawings.

A list of the color side-view drawings will give some idea of the variety of a/c illustrated both in photos and drawings: Bleriot XI, Nieuport IV, Deperdussin TT, Farman XVI, Morane-Saulnier N, Morane 'Olkhovskiy', Sikorski S.XVI, Morane-Saulnier L, Nieuport 17, Sikorski S.20, Farman HF-XXII, Lebed XII, Nieuport 23, FBA type C, Grigorovich M-5 & M-9, Sopwith 1 1/2 Strutter, Nieuport 17, Farman HF.XXX, Breguet 14, Antra DS (Anasal), Fokker D.XIII (misidentified as a D.VII), DH.9, Sopwith Snipe, Spad A.2, Morane-Saulnier L, Ilya Muromets B, Ilya Muromets G-3, Ansaldo A-1 Balilla, Fokker D.VII, Spad S.VII, R-1, Avro 504K, Junkers F.13, S.21 Russkiy Vityaz, IL-400B (I-1), R-3 (ANT-3), I-3, I-4 (ANT-5), Junkers J.21, Grigorovich M-24, U-2, I-5, TsKB-39 (I-15 third prototype), ANT-4 (TB-1), ANT-6A, ANT-40 (SB), R-10, Shavrov Sha-2, R-5T, I-16 tip 12, I-15bis, I-153, IP-1, DI-6, Nieuport 27, I-2bis, ANT-9 Krokodil, TsKB-30 (DB-3), & MBR-2 M-17.

Red Stars 3 is an excellent book of photos and color side-view drawings that should be in the library of any enthusiast or modeler interested in Imperial Russian a/c or pre-WWII Soviet a/c. Highly recommended.

Review copy provided by the publisher.

SHADOWS: Airlift and Airwar in Biafra and Nigeria 1967-1970. Michael I. Draper. Eikoki Publications, Aldershot 1999. Hardback, 288 pages, 32 in colour. ISBN 1 902109 63 5

To most readers Biafra will be just another small and long-forgotten African war, but this account is a book for both the serious and the curious. The author was briefly involved in the airlift to Biafra and has researched the conflict for almost thirty years. The result is the most comprehensive coverage ever published, with layout affording easy reference and easy reading of the most complex and changing scenarios. Qualified with footnotes, supporting evidence from log-books, communications, official papers, and private sources.

An informative and well-chosen selection of over 280 black and white and colour photographs, many never seen or published before. First-ever pictures of Biafran Alouette II and III helicopters, wrecked Nigerian Airways F-27 in Biafran camouflage, Nigerian Air Force Jet Provost, MiG-17F in bomber configuration, and former East German MiG-17blatt (blatt = East German for unmodified) in Nigerian Air Force markings. Colour photographs of wrecked aircraft at Biafra's Uli strip and the first publication of the secret landing codes for Uli.

Access to church and aid organization's records, log-book evidence of sorties, new information on early Rhodesian-crewed arms flights into Biafra, and the intricate web of arms-financing - taken

from confidential French police records, previously unpublished information on the manner in which an Aer Turas Bristol 170 air-freighted Magister fuselages on sectors twice the normal endurance, first-ever fully-detailed account of the attempt to export Meteor NF.14s from the UK to Biafra go to make this aptly titled book compelling reading.

This book has nine pages of quality colour profiles of aircraft engaged in the war and the most comprehensive listing and description of the aircraft involved, on both sides, ever published. Beautifully produced and bound it displays the hand of a professional researcher and a supporting editor. Highly recommended.

Robert J. Ruffle, Air Britain (Historians) Ltd., PO Box 430, Shoreham-by-Sea, West Sussex, BN43 5EB, England.

SHADOWS: Airlift and Airwar in Biafra and Nigeria 1967-1970. Michael Draper, 288 pages, 21.5 x 30.5 cm, hardbound. 200 b/w and 60 colour photos, 9 pages of colour profiles. Hikoki Publications, 16 Newport Road, Aldershot, Hants GU12 4PB, England, 1999. Cover price £29.95/\$49.95.

Books on African aviation are rare enough and to have two such volumes to review at the same time is virtually unheard of. As the title suggests, "Shadows" covers both the civilian and military parts of the Biafra-Nigeria war. With this title Hikoki cements its growing reputation as an up-and-coming publisher of quality books on somewhat obscure aviation topics.

Having done a fair amount of research myself on this conflict, I cannot help but be impressed by the sheer amount of effort Mike Draper has put into his book. He has gone to a lot of trouble to chase down people and information in order to get as complete a picture as possible. The fact that he was briefly involved in the airlift himself, and began collecting information for this book in 1968 already, certainly helped.

The book contains three chapters on the Biafran Air Force in its various leases of life, including fascinating details on many shady deals which never came to fruition. One chapter covers the Nigerian Air Force, with lots of detailed information on aircraft deliveries, mercenary pilots and missions. Several other chapters deal with the arms airlift and the Red Cross and church airlifts, again in great detail. The text is well written and easy to read and is supported by numerous excerpts from documents and log books as well as maps. At the back there are 23 tables listing aircraft, accidents and mission statistics.

Of the 260 photos, a large proportion show airliners involved in the various airlifts, etc. But the remainder are enough to give an excellent coverage of the Biafran and Nigerian air forces, including a large number of previously unpublished illustrations collected from the most diverse sources. The colour profiles are well done although not without one or two dubious points.

The bottom line is that this is an excellent book, heartily recommended to anyone with a taste for the slightly unusual.

Leif Hellström (SAFCH #786), Norrskensbacken 13, SE-146 46 Tullinge, Sweden.

AFRICAN AIR FORCES, Winston Brent, 216 pages, 21 x 29.5 cm, softbound. 30 b/w and 225 colour photos. Freeworld Publications, PO Box 6260, Nelspruit 1200, South Africa, 1999. Price £29.95 from Midland Counties.

This is number 5 in Winston Brent's "African Avia-

tion Series". As Winston mentions in the foreword, the book is an updated version of his "African Military Aviation" published in 1994. This means that we get a brief history of each African air force presently in existence, together with a listing of their past and present aircraft in tabular form. Large parts of the text are, in fact, more or less unchanged from the previous book. Many histories are rather too brief and I for one would like a bit more on the history of the respective forces.

The main difference from the earlier volume is the proportion between black-and-white and colour photos, which has been more or less reversed. The extensive selection mainly covers present inventories and includes many rare aircraft and colourful paint schemes. Most photos are, however, pretty small (8.5 x 5.5 cm) and many are a bit murky with somewhat garish colour reproduction: rather like old postcards. The captions are brief. Still, you would be hard-pressed to find a more complete collection elsewhere.

My main objection is the exceedingly boring layout. Typically, you get a couple of pages of tables followed by a page of photos - all the same size - but in some places there are 20 pages in a row with just text. Presumably this is to minimize printing costs but the result no doubt discourages many casual buyers. And why five photos of Aermacchi trainers on the cover (front and back)? Some variety would have been preferable.

All in all this is a typical enthusiast publication, but within those limitations it is no doubt the best source you can find on African air forces and as such merits a place in any SAFCHer's bookshelf. Leif Hellström (SAFCH #786), Norrskensbacken 13, SE-146 46 Tullinge, Sweden.

AFRICAN AIR FORCES, Winston Brent. Freeworld Publication. Softbound. E-mail: afmil@global.co.za. Web page: home.global.co.za/~afmil.

This interesting, but at times frustrating, book is a compilation of the air forces of Africa from Algeria to Zimbabwe (51 countries in all). It's no light weight, consisting as it does of 216 A-4 size high-quality glossy pages bound between sturdy covers. The coverage of each country consists of an intermingling of text and tables supplemented by b&w and color photos. The amount of coverage varies from 38 pages for South Africa to 18 for Angola, 16 for Egypt, 11 for Nigeria, 10 for Morocco and Zimbabwe, to less than a page for such countries as Burundi, Cape Verde, Comores, Djibouti, Equatorial Guinea, Eritrea, Gabon, Guinea, Guinea Bissau, Liberia, Mali, Mauritius, Niger, Seychelles, and Sierra Leone.

A summary of the coverage of one of the smaller countries should suffice to give a feeling of the coverage of them all. The coverage of the "Eritrean Republic Air Force" begins with 4.5-column inches describing the history of the air force beginning with the Chinese Y-12 obtained soon after independence in 1993 to the acquisition of MiG-29s from Moldova. This is followed by a table listing individual a/c, their s/n, c/n, arrival date, former identification, and fate. This table lists 4 Y-12, 1 IAI 1125, 7 MiG-21, 2 MiG-29, 2 Mi-8, 1 Mi-17, 9 T-33A, 8 Valmet L-90 TP, and 3 Aermacchi MB339CD. This is followed by an accounting of aircraft lost in combat with Ethiopia including an MB339 which may have been shot down and two MiG-29s which were shot down in air-to-air combat with Ethiopian Su-27. [Ed: Now there's one for your "dogfight double" collection.] The photo coverage is limited to a single photo of an Eritrean MB339.

One of the outstanding features of this book is the photo coverage, although the author tries to crowd too many (8) on a page. Large-size photos include: Tunisia MB326, Nigeria MB339, Zambia MB326, Ghana MB326 on the covers, Botswana Strikemaster (2) & Bulldog, the above mentioned Eritrea MS339, Ethiopia Canberra, Kenya Hawk, Nigeria Jaguar (2) & MB339 inside. It would be an injustice not to give at least a count of the photos for each country (color unless otherwise noted): Algeria 6, Angola 14, Benin 4, Botswana 7, Burkina Faso 4, Cameroun 8, Central African Republic 6, Chad 6, Congo Republic 8, Congo (formerly Zaire) 4, Ivory Coast 4, Djibouti 4, Egypt 5 + 2 b&w, Eritrea 1, Ethiopia 1 (6 b&w), Gabon 8, Ghana 6 + 1 b&w, Kenya 5 + 1 b&w, Lesotho 8, Liberia 2 B7w, Libya 2 + 2 b&w, Malagasy, 4, Mauritania 2, Mauritius 2, Morocco 6 + 2 b&w, Namibia 4 + 1 b&w, Niger 4 + 2 b&w, Nigeria 7, Rwanda 8, Senegambia 4, Seychelles 2, Sierra Leone 1 b&w, Somalia 3 b&w, South Africa 18, Sudan 4 b&w, Swaziland 2, Tanzania 6, Togo 6, Tunisia 4, Uganda 8, Zambia 4, and Zimbabwe 8.

Two nice touches are a page of national insignia (unfortunately not in color) and a map of Africa identifying each country and its capital.

At the beginning I mentioned that the book can be frustrating at times. This is probably because the author tries to do too much. Mixing the tables with the text does require a great deal of concentration on the part of the reader, especially since the text frequently refers to something in the table. Perhaps things would flow better if the tables were left to the end of the section. Nevertheless, the author has done an amazing job, and African Air Forces can be highly recommended, without the slightest reservations, to all students of the small air forces. Review copy provided by S. J. Van Zyl in exchange for his SAFO subscription.

[Ed: One copy of this book is available from the SAFCH Sales Service.]

THE FAIREY FIREFLY STORY, Yves Duwelz. Contact Special No. 2, Belgian Aviation History Association (BAHA). Available from the author: Yves Duwelz, Avenue Vander Meersch, 30, B-1150 Bruxelles, Belgium.

Published in September 1998, this A4 format amateur publication tells you just about all that you could ever wish to know about the Fairey Firefly in Belgian Air Force service. Even better for those who are not fluent readers of French or Flemish, all 126 pages are in English. The subject matter is, of course, the biplane first flown in the 1920s, but which was in service in Belgium throughout the 1930s and during the German invasion of May 1940.

The book begins with a brief background to the design of the Firefly, followed by a more detailed overview of its development from the Firefly I to the Firefly IV. Not surprisingly, the majority of the book concentrates on the main production variant, the Firefly IIM. A small section describes the aircraft accompanied by some photos of aircraft under construction and manufacturer's detail sketches. This is followed by background information on the Belgian Air Force after World War I. Pages 44-68 cover the Belgian military career of the Firefly from 1931 to 1940 and is well illustrated with black and white photos. Oddly, page 69 marks the beginning of the Epilogue, but this is where the real gems lie. The 42 pages that follow include 1/48-scale drawings, colour scheme, and marking details including 19 pages of colour profiles (34 aircraft), a page of detail sketches, 19 more photos, and individual service histories of 87 separate aircraft. The author concedes that these histories are

neither complete nor definitive, but I would challenge anyone to find a more complete set of information in one place. Overall this is an excellent reference for both modeller and historian.

The copy that I have is the deluxe version with colour profiles. Although the purist looking for exact paint shades will be disappointed, the colour reproduction is good enough for most people. A cheaper black and white version is available, but the deluxe version is well worth the price. Mine cost me 1200 Belgian Francs plus postage. More information is available on the BAHA website: www.baha.2-be.net

Ivan Hollingsworth (SAFCH #1554), Wayside, Rocks Green, Ludlow, Shropshire, SY8 2DS, England.

MUSTANGS OVER KOREA: The North American F-51 at War 1950-1953. David R. McLaren. Hard-bound. 184 pages. Schiffer Publishing Ltd., 4880 Lower Valley Road, Atglen, PA 19310. \$45.00.

The good news is that McLaren, an experienced writer and researcher, has done an excellent job in documenting in the text and with photos the history of the F-51's role in the Korean War. Of particular interest to SAFCH members and others interested in the role of the Allied nations are the chapters covering F-51 operations by the air forces of South Africa, Australia and the Republic of Korea.

To the author's credit, the book contains a short chapter offering a summary history and an all too small selection of photos of aircraft flown by the Democratic People's Republic of Korea's Air Force. (Or more correctly as the author notes, the Korean People's Army Air Force.) These black and white photos show several MiG-15s, an IL-10 the further development of the Russian "Shturmovik" ground attack aircraft of The Great Patriotic War and a Ki-54 "Topsy," a World War II transport for the Japanese military produced by Mitsubishi.

The author also provides, as to be expected, a thorough and exhaustive history of the Mustang's use by U.S. Air Force squadrons.

Unfortunately, this subject deserves much better treatment than the publisher has given it. The book, and its readers, suffer from what appears to be the publication of an unedited draft of the manuscript. The text is at times filled with grammatical errors, twisted syntax, unclear antecedents and random capitalization (i.e., Korean Army Senior Colonel.)

These problems are distracting to the careful reader and detract from what I believe is the author's intent: the presentation of a detailed history of F-51 operations. The lack of copy editing often, and unfortunately, casts doubts on the authenticity of the content. While this appears not to be the case with this book, an author's goal should be to present material in a clear, well-organized manner so the reader can concentrate on the material. While an author has ultimate responsibility for their material, an editor's responsibility is to notice the any or problems and work with the author to correct them before the book is sent to press. One of journalism's truest clichés is that the secret is not in the writing, but in the re-writing. If a purchaser is about to invest no small sum of their money in an expensive book, there are some fairly basic expectations that should be met.

Editorial issues aside, each well-documented chapter on the participating United Nations air forces is presented in a straightforward manner. The accompanying photos, black and white and color, are carefully captioned, and with rare exception, are of excellent quality. There are a few nice surprises

such as one photo showing both a Republic of Korea (ROK) Mustang with a Royal Australian Air Force F-51 in the near background. The author also includes a photo of one of the three (known) remaining ROK Mustangs and a F-51 (ex-USAF 44-73970) on display in the People's Republic of China, courtesy of a ROKAF defector.

The chapter covering the operations of 2 Squadron, South African Air Force (SAAF), is well-researched and well-written and offers nearly twenty photos of SAAF aircraft and their crews. Known as the "Flying Cheetahs", the squadron carried the designation of one of South Africa's most experienced units, the squadron having served in the Balkans, Sicily, Italy, the Middle East and in East Africa during WW II. The author makes a point about South Africa's contribution to the UN effort in Korea, noting that the SAAF took pride in paying the United States for all the F-51s it received in Korea. This chapter offers a highly detailed history of the squadron's operations and achievements and is a good perspective on the often-overlooked and little-noticed contributions of an Allied air force. Having been based in Japan on occupation duties when the Korean War began, 77 Squadron of the Royal Australian Air Force (RAAF), flew its Mustang IVs on their first combat mission within a week of the war's first day. McLaren's coverage of the 77's role is detailed, though it suffers somewhat from the book's overall lack of editing. The chapter is filled with details of the squadron's bomber-escort and ground-support operations. He notes that they suffered the first British Commonwealth casualty of the conflict and provided escort for the UN's largest airborne assault of the war, a rarely noted assignment and one that the American paratroopers and C-119 pilots probably greatly appreciated.

The squadron's natural finish Mustangs are well presented in the chapter's collection of photos, and many of the photos, including some air-to-air shots, clearly show the aircraft's national markings and serial number.

For Mustang buffs and those interested in three often overlooked air forces involved in the Korean War, McLaren's book would be a good, if slightly flawed, investment.

The errors and carelessness that detract from the book's overall value are unfortunate in general and irksome not only because they make the reader's efforts more difficult, but were clearly preventable. The author has clearly done an excellent job of research and organization, but the work suffers because of a lack of attention to editing. As stated earlier, that is unfortunate, because the subject worthiness.

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SERVICE HISTORY OF THE RoCAF F-104, by Clarence Fu. Available from: Clarence Fu, PO Box 112-129, Taipei, Taiwan. Price unknown. Hardbound.

This, the second book by SAFCH member Clarence Fu on the aircraft of the Republic of China Air Force, provides a history of the F-104 in Taiwan. The first 58 pages tell the story of the F-104 in Chinese service and includes 42 photos and two maps. The next 100 pages are devoted to the history of individual RoCAF F-104 and include at least one photo of almost every aircraft for a total of 225 photos. A final 30-page section provides technical details and includes 50 photos of interior and exterior details. This is supplemented by 100 color photos, about half showing an entire aircraft and the rest showing interior and exterior details.

A 5-page section of color drawings presents 9 side-views (F-104A '4256' in camouflage, F-104D '4166' in camouflage, TF-104G '4193' in grey, F-104B '4101' in grey, F-104A '4201' in grey, F-104G '4347' in grey, RF-104G '5628' in grey, RF-104G '5664' in camouflage, & RF-104G '4400' in grey) and generic top and bottom plan-views of a camouflage a/c and a grey-painted a/c. This reviewer was surprised to see that the overall grey scheme actually consists of two tones of grey on the upper surfaces. Aircraft '4400', which is shown in one of the side-views and in several photos is an unusual Starfighter in that it has an elongated nose with huge camera windows. This would make a simple, but interesting, conversion project for the modelers.

The b&w photos are generally of high quality and their reproduction on glossy paper is excellent. However, in the effort to provide a photo of each individual a/c, some photos are of lesser quality and a number are of a/c in the scrap heap. The color photos are excellent and the color drawings are outstanding.

That's the good news. Now, the bad news. The text is entirely in Chinese. This reviewer found a few items of information he could recognize. For example, the text for '4400' begins, "4400; F-104G Fokker; 67-22517, 8230; @@@@ : 4510th CCTW; @@@@ RF-104G; 5 @ 12 @" where the @ stands in for a Chinese character. So all is not lost. "The Service History of RoCAF F-104" is an excellent book that can serve as a model for authors contemplating writing a monograph on a single a/c type in the service of a single country. The fanatical F-104 enthusiast will certainly want to obtain this book, but I'm afraid that the average enthusiast of the small air forces will be put off by the Chinese text and will, thereby, miss out on a great book.

Review copy provided by the author.

NORTH AMERICAN F-86F-30-NA SABRE, Baldini, Cettolo, Marino, Mosquera & Nunez Padin. Fuerza Aerea Argentina #6. Available from: Jorge F. Nunez Padin, Laspiur 1801, 8000 Bahia Blanca, Argentina. \$12.00 including air mail.

This is another the outstanding monograph series from our friends 'Down Argentine Way'. It is produced in the same format as the earlier volumes, only with more pages (44) and more color. The resulting slight increase in price is well worth it considering the quality of the contents and the inclusion of a 2-page English-language summary.

The Spanish text follows the usual format: (1) "Historia" 8 pages; (2) "Tecnica" one page; (3) "Colores & Insignias" one page; and (4) "Historiales Individuales" 3 pages. The non-Spanish-speaking reader can gather much information from the text with help from the short English summary and the English-language captions to the photos. However, the photos alone are worth the price of the book.

These photos are superbly reproduced on sensuously-glossy paper with the colors photos as good as if they were printed on the best quality "Kodak" paper. The 15 color photos, 40 b&w photos, and 2 color side-view drawings illustrate the Argentine F-86Fs in their initial Anodized Grey (FS34227) finish and their later camouflage of Dark Bronze Green (FS34079), Tan (FS30102), Light Grey (FS36440) upper surfaces and Semi-Gloss White (FS27875) under surfaces. One of the color side-view drawings illustrates a camouflaged Sabre with a huge "shark mouth".

This sixth volume in the Fuerza Aerea Argentina series is the best yet (although I wouldn't trade it for their T-28 book) and it is highly recommended to all enthusiasts of the North American Sabre or of Latin American aviation. In addition, anyone

interested in the small air forces will find this book a beloved addition to their library.

[Ed. This book and earlier volumes from this series are available from the SAFCH Sales Service. Future volumes in the Serie Fuerza Aerea include #7 IAI Dagger & Finger (all new edition) and #2 McDD A-4P/C Skyhawk (up-dated re-edition); in the Aerie Aeronaval the plans are for #11 AMD/BA Super Etendard (all new editions, #12 Aer Macchi MB-326GB, #13 Consolidated PBY Catalina, #14 Lockheed L-188 Electra, & #15 North American AT-6 Texan; and Special #3 "McDonnell Douglas Skyhawk en Argentina (120/140 pages) and LAe-24 Calquin (to be confirmed). Wouldn't it be exciting if other countries could match this publishing record.]

JAK-11, by Zbigniew Luranc and Cezary Piotrowski. Skrzydla in Miniaturze #21. Wydawnictwo Avia-Press, ul. Startowa 13A/6, 80-461 Gdansk, Poland.

Skrzydla w Miniaturze started out as a regular magazine, but it has developed into a monographic series that the Poles do so well. This, number 21 in the series, covers the Yak-11 (or C-11 as it was known in Czechoslovakia), a piston-engine training aircraft that was used by most of the Soviet client states. In 48 A-4 size pages of high-quality paper bound between sturdy glossy covers, the story of the Yak-11 is covered in text (Polish only), photos, and drawings. The book begins with a 5 page chapter on "Samolot szkolno-treningowy JAK-11/C-11" that includes 8 photos of the Jak-11 in Soviet markings (including the rare tricycle-gear Jak-11U). The 2-page second chapter "Jak-11/C-11 w sluzbie" includes 4 photos of Jak-11 in Austrian, Czechoslovak, and Polish markings. "Jak-11/C-11 w Polsce" is 4 pages with 9 photos of the a/c in Polish markings. The 14-page chapter "Opis techniczny" contains 39 b&w and 16 color photos of interior and exterior details, a cutaway drawing, and sketches of details probably taken from a maintenance manual. "Cena samolotu" is a 16-page chapter that contains 7 pages of 1/48- and 1/72-scale drawings, 5 pages of detail drawings of the landing gear and interior detail, and 12 more photos of interior and exterior details. The book concludes with 8 pages on "Malwanie" with 8 b&w & 11 color photos (including three of a/c on the War Bird circuit), and 12 color side-view drawings (Soviet, Czech, Polish, Hungarian, Egyptian, Syrian, East German, and Austrian).

The quality of the photos, especially the color photos, is excellent: the scale drawings are outstanding, as we have come to expect from Polish publications; and the color side-view drawings are vibrant and eye catching.

Skrzydla #21 is highly recommended to anyone, modeler or enthusiast, wanting to know more about this neat little Jak trainer. [Ed: Several copies of this book are available from the SAFCH Sales Service.]

Review sample provided by the author, Zbigniew Luranc.

LOCKHEED HERCULES PRODUCTION LIST 1954-2001, 13th edition, by Lars Olausson. Available from the author: Lars Olausson, Box 142, S-530 32 Satenas, Sweden. \$13.00 surface mail (add \$1.00 for air mail). Payment by cash; no cheques since the bank charge is \$14!

SAFCH member, Lars Olausson, continues to update his "Labor of Love". This latest edition takes the production list up to c/n 5535, a C-130J for the Italian AMI scheduled for delivery in September of 2002.

The amount of material contained in these books is unbelievable. The 130-page production list not includes initial customer and delivery date for each a/c, but follows it throughout its career, listing all subsequent owners, registrations, and the location, date, and color scheme of each sighting. For the older a/c, this can be a long litany. As an example of shorter entries consider c/n 4710, a L-100-20 delivered to Gabon on 7612 "Gabon AF" "TR-KKB" 7612 (8305 collided with hanger; rep; 9310 for sale, 9504 same, 9701 flying, 9705)". Or, c/n 4842 a C-130H delivered to Singapore on 8001, "Singapore AF, 122 Sqn, Changi, '730' 8001 (8308 green camo, 8804 large bird head on fin, 9406 gloss brown camo, Rodeo 9408, 9901)". At first, the shorthand can be confusing, but, with the help of the appendices, one grows used to the notation.

The remaining 64 pages are appendices providing the cross-references needed to extract information in any number of ways. For instance, if you want to find out what C-130 were used by the Singapore AF, the appendix on "Government Operators" lists the c/n of ten a/c; referring back to the main body of the book then provides the history of each of these a/c. Other appendices list the various version (C-130S, etc.), "Commercial Operators", "Civil Registrations", "MASDC/AMARC", "Destroyed Aircraft", "USAF Active C-130 Operating Units", "USAF Reserve Units", "US Air National Guard Units", "USAF Serial Numbers", "History of USAF Airlift Units", "History of USAF Reserve Units", "History of USAF Air National Guard", "USAF Tail Codes", "USN, USMC, USCG Operating Units", "USN, USMC, USCG Serial Numbers", "Abbreviations", and "References".

All lovers of the Hercules should have a recent edition of Lars' "C-130 Production List" in their library. In addition, anyone aspiring to write a "Production List" for any other aircraft type should look into this book as a model of what can be done. Review copy provided by Lars Olausson, the author.

NALAJIMA Ki 43 HAYABUSA/OSCAR, by Przemyslaw Skulski. Sera Pod Lupa #11. Softbound. Ace Publications, ul. Dawida 30/5, 50-527, Wrocław, Poland.

Eastern Europeans seem to have a fascination for Japanese aircraft. This latest monograph from

Poland provides extensive coverage of the Hayabusa in their usual format of 48 A-4 size pages on glossy paper bound between sturdy card covers. The text is in Polish, but with a 2-page English-language summary that includes the captions for all the photos and drawings. The text is minimal with most of the pages devoted to illustrative material. There are 35 contemporary b&w photos, 10 b&w and 11 color photos of the aircraft in the EAA Museum, 2 color 4-view drawings, 16 tone and 9 color side-view drawings (including Thai, French, & Indonesian a/c), 9 side-view line drawings of variants, 4 pages of 1/72-scale 5-view drawings, 6 pages of 1/48-scale multiview drawings, and 3 pages of 2-view drawings showing generic markings for the Ki 43-I, -II, and -III. There is the obligatory cutaway drawing, 8 perspective drawings showing "Examples of Commanders Aircraft Markings", 9 side-view drawings of the rear fuselage showing "Shotai Markings", 2 pages of sketches of interior and exterior details, and color drawings of the cockpit interior. Three pages of kit reviews include 7 photos of models and box-top art and two tables listing available kits, decals, and accessories.

With approximately 80% of the pages devoted to illustrative material, Ace Publication's *Sera Pod Lupa* on the Oscar obviously has been designed with the modeler in mind and would be a useful companion for anyone building a model of the Oscar in 1/72, 1/48, or 1/32 scale.

Review copy provided by the author, Przemyslaw Skulski.

LA CAMPAGNE de FRANCE (4e partie) Les combats Franco-Italiens 10 juin - 25 juin. Batailles Aeriennes #11. Sarl Lela Presse, 29 rue Paul Bert. 62230 Outreau, France. E-mail: lela.presse@wanadoo.fr.

This latest in the *Avions* series on aerial combat in WWII covers the relatively unknown battle between France and Italy in June of 1940. The attack by Italy on France, when France was all but defeated by Germany, was described by President Franklin D. Roosevelt as a "stab in the back".

The chapter of the book are: "L'Italie de Mussolini vers le Pacte d'Acier"; 5 pages & 5 photos. "La Regia Aeronautica le 10 juin 1940"; 4 pages, one photo, one map, & 4 tables. "L'Armee de l'Air face aux Italiens" 4 pages & 4 photos. "L'Aeronautique

navale" 2 pages & 7 photos. "11-12 juin: Round d'observation et premier coup au but"; 4 pages & 9 photos (including Loire 70s destroyed during an Italian raid). "12 juin: Premieres frappes en metropole"; 4 pages & 6 photos. "14 juin: La France passe a l'offensive" 2 pages & 3 photos. "La Royale a l'assaut de Genes" 2 pages & 4 photos. "15 juin: Le plus grand exploit de la guerre" 4 pages & 6 photos. "16-17 juin: Les Glenn mettent la Regia Marina a genoux"; 4 pages & 12 photos. "18 juin: Les Loire-Nieuport dans la tempete"; 3 pages & 4 photos. "Quand les Francais achetaient des avions aux Italiens" 2 pages & 5 photos (Italian a/c in French markings). "19-20 juin: Meteo execrable pas d'operations ..."; 2 pages & 3 photos. "21 juin: L'Italie lance son offensive sur les Alpes" 4 pages & 9 photos. "22 juin: La Regia Aeronautica n'est pas la Luftwaffe"; 4 pages & 8 photos. "23 juin: Les Glenn et LeO assenent les derniers coups"; 4 pages & 8 photos. "24-25 juin: Les dernieres cartouches avant le repli general"; 3 pages & 5 photos. "Les Loire-Nieuport abandonnes en Sardaigne" one page 5 photos. "Bilan des combats franco-italiens" 3 pages & 5 photos.

Color side-view drawings include the Bloch 152, Fiat BR 20, Bloch 210, Potez 63.11, LeO 451, Loire 70, Loire-Nieuport 411, Glenn-Martin 167, Fiat CR 42, and Amiot 143. Two full-color beautiful maps show southern France, Italy, Corsica, Sardinia, and North Africa. These are invaluable for locating the French names for cities mentioned in the text (Genes = Genoa). Incongruously, these maps have the present-day borders. As an bonus, there is a table "Palmares de la chasse francaise septembre 1939 - juin 1940" which lists all the French victories by unit.

The book ends with two pages, in color, of the uniforms of the Regia Aeronautica and a 4-page modeling section describing building the 1/72-scale Heller kit of the LeO 451 (10 photos).

Another excellent publication in the *Batailles Aeriennes* series which is especially interesting because it covers a little known serial campaign of WWII. Recommended without reservations.

Review copy provided by Michel Ledet of Lela Presse.

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I have recently received the latest issue of the Finnish magazine, *Suomen Ilmailuhistoriallinen Lethi* (The Finnish Aviation Historical Magazine) issue 4/1999. I must remind you that I do not read Finnish, but the magazine comes with a condensed English summary which I found very helpful. Of course, the photographs and drawings need no translation. Their editorial office is: InScale 72 production, Makelankatu 5 B 10, 00550 Helsinki, Finland.

The cover features a beautiful picture of a Finnish Junkers A 90 Junior and a indigenous biplane, the Saaski II. This picture is particularly bright and clear, and I was startled to see that it was taken in 1932. The Saaski II is a particularly attractive little biplane which is new to me, and which I think would make a very attractive R/C model. The following six pages continues the detailed study of the Finnish Folland Gnat. It includes nine pictures and twelve line drawings which illustrate various details of the Gnat's interior. Anyone interested in making a detailed model of the Gnat must get these articles.

Then comes a description of the trials and tribulations of the two Airspeed Oxfords which were used in Finland largely doing cargo and passenger flying. These were postwar RAF surplus airplanes which were privately owned by a couple of Finnish bush pilots, and I can only say that I am happy not to have flown with them. The inside front cover features a plan view drawing as well as a pair of profile drawings which show the different modifications that each airplane had. A wartime history of the 34th Flying Regiment and their Messerschmitt Bf-109Gs is on the next four pages. It includes five photos and a map. Next is a three page collection of photographs of the various airplanes which one Finnish pilot flew during the war, and his commentary. The final article is of a number of 'Technical NCOs' (Maintenance Officers) at a forward airfield and illustrates the very Spartan life they lived during the war, where most of their work was carried outside in the snow, in the forest.

Gus Morfis (SAFCH #3), 4709 Green Meadows, Torrance, CA 90505, USA.

IPMS-MALLARI (IPMS Finland, PL 798, 00101 Helsinki 10; 6 issues \$20.00, no check accepted due to the high redemption costs).

Bilingual Special Issue 1999 (56 pages). [Editor's note: This special, all color, issue celebrates the 30th anniversary of IPMS Finland. It was published in collaboration with the Finnish Ministry of Education and is devoted entire to painting models with hope that it will help young and novice modellers. All text appears in parallel Finnish and English translations.] "A Short Guide to the Basics of Brush Painting" 6 pages including 5 photos. "Airbrush Painting" 5 pages including 12 photos. "Sculpting Figures in 1/48 Scale" 3 pages including 14 photos. "Painting Small Scale Figures" 5 pages including 18 photos. "Post Shading: An Alternative Approach to Finishing AFV Models" 5 pages including 10 photos. "How to Weather Military Vehicles using Washes, Pastel Chalk, and Dry Brushing" 2 pages including 8 photos. "Polishing Painted Surfaces" 4 pages including 12 photos.

"The Painting of Finnish AFV's" 9 pages including 7 photos, color equivalents, and sketches of camouflage schemes. "Finnish Air Force Standard Camouflage Patterns 1939-1945" 8 pages including 12 photos. "Finnish Navy Painting Schemes from 1915 to Date" 4 pages including 12 photos.

MINI REPLIKA Ilustrowany Magazyn Plastikowego Modelarstwa Lotniczego. "Wydawnictwo KSPrint", Krzysztof Sikora, ul. Moniuszki 7, 63-600 Kepno.

Since the demise of the Soviet Union, a number of excellent aviation/modeling magazines have come out of Poland. Some, such as *Aero Technika Lotnicza*, have since disappeared, but others, such as *Fanatyk Plastik* and *Skrzydla w Miniaturze*, have continued to provide exotic information. The newest and, in this reviewer's opinion, the best of the Polish magazines is *Mini Replika*.

This magazine excels both in the quality of the information presented and the high standard of presentation. Each issue consists of 40 pages of high-quality paper including 8 pages of color photos and drawings, first-class scale drawings, and a good mix of photos of the real aircraft and models. The pages devoted to the presentation of new products are very effective in that they present photos of the contents including parts, decals, and accessories. While Polish aircraft are the main focus, other countries and armor modeling are not neglected. A review of a recent issue should give you an idea of why I am so delighted with this publication.

#9 4/1999 "Rumpler C.I" 8 pages 16 photos of Polish a/c, 2 photos of the engine, 2 photos of a complete model, a 1/72-scale 4-view drawings that includes drawings of details, and 5 beautiful color side-view drawings of the Rumpler in Polish markings. "Mi-2" 2 pages with 13 color photos of interior and exterior details. "Z wody wloskiej do Polski" 4 pages including a 3-view drawings of the CANT Z.506B and 4 color photos of a model of the Lublin R-XIId (with 9 color photos of the model under construction). "Su-17.20/22 lotniskowo-hangarowy" 6 pages on ground equipment including 17 color photos and 2 pages of 1/72-scale drawings. A real challenge for the scratch builder, but what addition to a diorama of an Su-22 outside it's shelter. "Jubileuszowa 'Suczka'" 2 pages on a specially-marked Polish Su-22 including 7 b&w and 2 color photos. "Inicjaly i nie tyko" 3 pages on Polish P-51s carrying the codes of the squadron commander (SS, TN, JZ, & TR). Can you guess the commander? "Samoloty i smiglowce uzywane w Lotnictwie Polskim i ich Modele: czesc 9" one-page table (part 9 of a series) listing aircraft Oeffag C I to PWS-3 and available kits. "Moje TKS-y" 3 pages on models of the Polish tanks with 8 color photos of models (7 TP, Renault R35, Vickers E, armored car wz.29, armored car wz.34, Tatra armored railway scout car, & wz.36 horse-drawn field gun). Just the thing to compliment a collection of aircraft from the September Campaign.

Mini Replika is highly recommended to all modelers of Polish a/c. If you need further encouragement, see the review of #10 in our Abstract section.

Quauhtli, Edicion 1999. Annual. Asociacion Mexicana de Cultura E Historia Aeronauticas, A. C.

This is the premiere issue of the magazine of the Mexican Aviation Historical Society which will be published just once a year. This issue consists of 114 A-size pages on high quality glossy paper bound between sturdy covers. The articles are a balance of every aspect of Mexican aviation from commercial, private, military, etc. The text is in Spanish, but there are numerous photos and two scale drawing. The 1999 issue has the following articles. (1) "La Ceremonia de 'El Volador'" a 3-page description of an Aztec(?) ceremony of flight with contemporary wood prints and a photo of a modern-day recreation. (2) "Los Primeros Aeronautas en Mexico: Adolphe Theodore (1833-1835) vs Eugenio Robertson (1835)" 11 pages. (3) "Los Morane Saulnier 'G' (Kantner-Moisant) en Mexico" 7 pages including 5 photos and a 3-view scale drawing. (4) "Aviones Estadounidenses en Veracruz en 1914" 2 pages with one photo and a 3-view drawing of a Curtiss F Boat. (5) "Inicios del Servicio Postal Aereo en Mexico" 11 pages including 10 photos (Serie A, Lincoln Standard, Stearman, & Fairchild). (6) "Plutarco Elias Calles y la Aviaion Mexicana" 7 pages including 6 photos (DH-4B, Douglas OM1, Vought Corsair, & Ford Trimotor). (7) "Pilotos Mexicanos de Spitfire en la RCAF" 9 pages including 10 photos. (8) "Escuadron 201: Fuentes para su Estudio" 5 pages. (9) "Historia del DC-6 en Mexico" 15 pages including 12 photos and several tables. (10) "Vuelo Alrededor del Mundo en Monomotor a Traves de 57,000 Kilometros" 15 pages including 17 photos. (11) "Semblanza: Miguel Anaya" 5 pages including 7 photos (Aeronca, Beech C-45, Cessna 195, & Fleet). (12) "La Aventura de un Museo: El de Aeronautica" 6 pages including 5 photos.

One would be hard to find a more eclectic collection of articles in any aviation journal. *Quauhtli* should be required reading for all students of Mexican aviation.

The next issue should be published by mid-2000 and will be dedicated to the 100th anniversary of the birth of the Mexican long-distance flyer, Francisco Sarabia, who, in 1939, flew the QED from Mexico City to New York City.

Anyone interested in obtaining copies of *Quauhtli* should contact: Manuel Ruiz Romero, President (AMCHAAC), Ave. Eugenia 1360-2, Col. Navarte, 03020 Mexico D.F., Mexico. Or, e-mail: buer-go@df1.telmex.net.mx

Review copy provided by Santiago A. Flores.

[Ed: A couple of copies are available from the SAFCH Sales Service.]

Revista Espanola de Historia Militar. Quiron Ediciones, Apartado de Correos #2038, E-47012 Valladolid, Spain. E-mail: alcanizfresnos@nemo.es. Web page: libromedia.com/quiron. At hand is another premiere issue, this time from Spain. The first issue consists of 64 A-5 size pages printed on high-quality glossy paper bound between sturdy covers. The text is in Spanish, but there are numerous well-reproduced photos, both

b&w and color, and many beautiful color drawings. This first issue is entirely devoted to the Spanish Civil War: "El Desfile de la Victory" 10 pages on the Victory Parade at the end of the Civil War including 34 photos of military equipment and marching units parading before General Franco. "1939/1040: El Nacimiento de un Regimiento de Carros" 6 pages including 14 photos of Spanish tanks (Panzer IA & T-26B) on maneuvers. "El Regimiento de Artilleria de Costa #2 en la Guerra 1936-39" 11 pages including 20 photos and one color drawing of coastal guns then and now. "Los Destruyores 'Velasco Ceuta' y 'Velasco Melilla'" 10 pages including 19 photos and 2-page color side-view drawings of both destroyers. "No Merecian este Final" 2 pages including 4 photos of the dismantling of a large coastal gun. "Polikarpov I-16: Rata/Mosca" 2 pages including 2 color side-view drawings (Republican and Nationalist). "Obuses 'Schneider' del 'Quince y Medio' en la Guerra Civil" 10 pages on artillery piece including 13 photos, a color side-view drawing, and full-page color drawing of a crew in uniform. "El Desconocido 'Carro Veloz CV-3/35' Breda" 2 pages including one photo and a color side-view drawings of the Italian tankette. "Aviones Recuperados en el Sureste al Final de la Guerra Civil" 9 pages describing Republican a/c including 18 photos (Breguet XIX, Hispano Suiza E.30 & E.34, Gonzalez-Pazo GP-1, Macchi M-18, Bloch 210, Caudron Aiglou, Caudron Luciole, Farman F-193, Tiger Moth, Percival Gull Six, Northrop Delta & Gamma, Ford 4AT, Stinson Reliant, and Polikarpov R-5, I-15, & I-16) and 9 outstanding color side-view drawings (HS E.30, NiD.52, Bloch 210, Latecoere 28, Romano R-82, Airspeed Envoy, Miles M-2, Northrop 2E Gamma, Polikarpov R-Z, & Fiat CR-32). While few of the a/c illustrated are available as model kits, the colorful Nationalist markings will get the modeling juices flowing in any modeler aspiring to build up a collect of Spanish Civil War a/c.

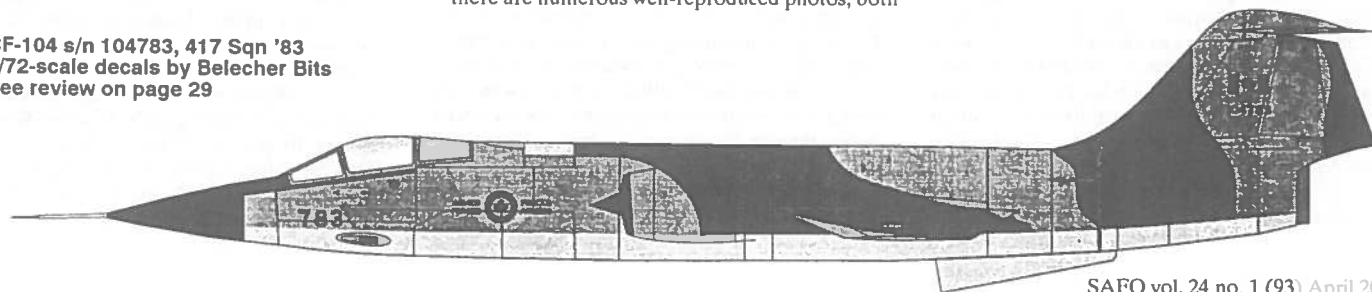
Future issues of *Historia Militar* will broaden the coverage; articles promised for the next issue include "Wesserubung Nord" Asalto a los Fiordos" (E\;d: Not very Spanish), "1898: Las Defensas de la Habana", "Fairchild 91 'Baby Clipper'", "Isabella" Canones del III Reich para las Islas Canarias", and "1940: Frente a Vigo, una nueva forma de Guerra Aeronaval".

Historia Militar #1 is a must for all students of the Spanish Civil War, and if your interest extends to other time periods of Spanish military history, future issues should prove to be most interesting.

Review copy provided by Juan Carlos Salgado, who writes. "Quiron has also launched a series of monographs on Spanish a/c, the first, on the Heinkel He 60, is available now. Issue #2 will be on the He 70, #3 on the Hs 123, and #4 will probably be on the Fw 200. These will be about 40 pages with 20 color profiles. Quiron's third project is an encyclopedia of Spanish military aviation. This will be published in weekly installments over a period of three years in ten volumes starting in the Spring of 2000.

[Ed: The review copy of *Historia Militar* #1 is available from the SAFCH Sales Service.]

CF-104 s/n 104783, 417 Sqn '83
1/72-scale decals by Belecher Bits
See review on page 29



CANADIAN CF-104 STARFIGHTERS, 1/72nd scale decals. Belcher Bits

Belcher Bits, Mike Belcher's growing line of Canadian decals, kits, and accessories, recently released a 1/72nd scale Canadian Starfighter decal sheet (#BD-7) covering the entire operational history of the CF104. Surprisingly, this has been a neglected subject; the Belcher Bits release is the first accurate 1/72nd scale decal sheet for Canadian Starfighters.

The sheet itself is small, measuring only about five inches square, but packed with all of the marking schemes worn by Canadian Starfighters from 1962 until phase-out in 1986. The sheet has extra code numbers to allow the modeler to build any CF-104. Maple Leaf roundels are included for each marking scheme, but to build every Starfighter on the sheet you will need additional roundels. Four types of schemes are covered on the sheet:

(1) Four Starfighters from the period 1962 to 1970 in the initial scheme of natural metal fuselage with white wing tops and horizontal stabilizer. There is an additional Starfighter "trainer" from 1975 in the same scheme but with red horizontal stabilizer.

(2) Three mid-1970s Starfighters in overall dark olive green, reflecting a change in the CF-104's NATO role to low-level strike. Although the most drab scheme worn by Canadian Starfighters, it was the most menacing and certainly the easiest for modelers to duplicate.

(3) Eight gorgeous, yellow/black Tiger Meet schemes from 1971 to 1983. If you like jets, you won't be able to resist these Tiger Meet markings. Mr. Belcher thoroughly researched the schemes and even included separate silver backings for each marking to reflect the natural metal surrounds found on the real aircraft. One additional Tiger Meet CF-104 from 1975 is in the operational olive green scheme with a tiger head insignia on the tail. One Starfighter from 1983 in final "low-vis" scheme of dark green and gray uppers over light gray undersurfaces, rather resembling the RAF's WWII day fighter scheme.

The decals are beautiful, but just as interesting is the well-researched instruction sheet, which gives profiles of all of the above aircraft, a full breakdown of units operating the CF-104, and various historical tidbits. For example, I was previously unaware that Canadian Starfighters had a NATO nuclear strike mission in the 1960s.

To accompany the decal sheet, Belcher Bits will also be producing a 1/72nd scale resin accessory set for the CF-104 (#BL-2), featuring two types of nuclear bombs, a multiple stores rack, center-line pylon, cluster bombs, and VICON reconnaissance pack. Everything you need to dress up your CF-104. I highly recommend this sheet to any SAFO readers interested in Canadian subjects or the small air force use of the F-104.

John Tate (SAFCH #1005), 10305 Oso Redondo NE, Albuquerque, NM 87111, USA.

MiG-15bis Sheet #1: Polish, North Korean Defectors, & Soviet Korean Night Fighter Ace. Cutting Edge Modelworks CED32017. Meteor Productions, PO Box 3956, Merrifield, VA 22116, USA. WWW.meteorprod.com. \$12.00.

This large (14 cm by 20 cm) sheet provides the markings for three MiG-15bis: (1) Red '346' of the Polish AF; the aircraft in which Franciszek Jareki defected to Bornhold Island on 5 March 1953. The aircraft is natural metal overall and the Polish chessboards are provided with a separate white

background so the modeler can choose which side of the controversy he wants to support; photos seem to show the red applied directly over the metal finish, but standard practice was to use red/white chessboards. (2) Red '2057' in which Senior Lieutenant Kim Ro Suk defected to Kimpo Air Base on 21 September 1953. The aircraft is in natural metal overall, but there is controversy over whether the North Korean red star had a white background and if the serials were black or red (both outlined in white). The decals provided are for the more convention interpretation: red serials (with the white outline printed separately) and a white background to the national insignia. (3) Aircraft red '546' of Major I. P. Golshevskij in a night fighter scheme of upper surfaces camouflaged in brown (FS24098) and tan (FS22648) with black undersides.

The decals are printed in dense, vibrant colors in perfect register. The instruction sheets provide color side-view drawings of all three aircraft as well as a color top-view drawing of the camouflage pattern on '546'. Also provided comments of "Landing Lights", "Interior Colors", "Wing Fences", "Natural Metal Finishes", and "References". The comments on the wing fences are particularly interesting: "Quite a few kits and drawings have been done showing a 'notched' cutout in the left inboard fence. Actually, this was present on the early MiG-15s (before the 'bis' modification) and a few of the early MiG-15bis aircraft. The Poles retained this notch on their Lim-1s (MiG-15) and Lim-2s (MiG-15bis), but very few other aircraft carried the notched fence. Therefore, we suggest you NOT use a notched wing fence unless your photo clearly shows that it existed on the specific plane you're modeling." (Ed: This notch allowed the pilot to see the landing gear indicator from the cockpit.) This, and the comments about the controversy surrounding the serials and national insignia demonstrate the careful research that has gone into these decals. They are highly recommended to the builders of 1/32-scale aircraft.

Review decals provided by David Klaus of Meteor Productions.

MiG-15bis Sheet #2: Soviet Korean War Aces & USAF Captured Aircraft. Cutting Edge Modelworks CED32018. Meteor Productions, PO Box 3956, Merrifield, VA 22116, USA. WWW.meteorprod.com. \$12.00.

This sheet, identical in format to the one reviewed above, provided the markings for four more MiGs: (1) Red '02' on Major Arkady S. Boitsoc (9 kills) with upper surface camouflaged in brown (FS24098) and tan (FS22648) and natural metal under surfaces. (2) USAF '616' in natural metal with markings as seen at Kadana AB, Okinawa, 1953. (3) The same aircraft, but now as 'TC-616' as seen at Wright-Patterson AFB in 1954. (4) Black '931' of Capt. K. I. Syomy (4 kills) with upper surfaces camouflaged in brown, tan, and black "tiger" stripes and natural metal lower surfaces.

The decals are again superb and the instruction sheet provides full-color side- and top-view drawings for all four aircraft as well as useful information on "Interior Colors", etc. Highly recommended to the builders of 1/32-scale aircraft. Review decals provided by David Klaus of Meteor Productions.

WWII SECRET and EXPERIMENTAL AIRCRAFT "P" Markings. 1/72-scale decals.

#7201. Joe's Models, 19 Valley View Rd., Verona, NJ 07044, USA.

SAFCH members Joseph Francesco and Armando Gil have collaborated to produce a decal sheet of much-needed "P" markings for British WWII prototype aircraft. This sheet measures 20 cm by 9.5 cm and consists of 104 yellow "P" in 5 different sizes separately printed from 72 yellow rings in 6 different sizes. Combining the "P" and rings is various combinations should allow all variations in prototype marking to be produced. To illustrate the attention to detail paid by Joe and Armando, the yellow has been printed over a white undercoat to minimize "see-through" and the yellow have been toned down to enhance the "scale effect".

An excellent instruction sheet provides a short history of the "P" marking, a list of references, and 10 color side-view drawings of a/c that carried the "P" marking (Baltimore, Mustang, Firefly, Sea Otter, Tempest, Bermuda, Meteor, Defiant, Welkin, and the tandem-wing Lysander) reproduced, with permission, from Hikoki Publications' "The Secret Years".

This reviewer, for one, greatly appreciates the releases of this decal sheet. Now I can finally finish my "Rotobuggy" which has been sitting on the shelf for years without its "P". And, I may even be inspired to finish that tandem-wing Lysander I started years ago or even drag out that vacuform kit of the Miles "Libellula" - but I must not get carried away.

These decals can be ordered from Joe at the address above. The price to SAFCH members is \$5.00 including postage within the US. For the rest of the world, the price is \$6.00 preferably by International Postal Money Order.

[Ed: Joe plans to release the "P" decals in 1/48 scale which would also be suitable for 1/72-scale bombers. He also is considering doing some sheets for manufacturer's logos, tire markings, propeller markings, engines markings, etc. If you are interested in this sort of thing and can help, please contact Joe at the address above.]

Review decals provided by Joseph Francesco of Joe's Models.

FINNISH AIR FORCE, Part 1 and Part 2. GAL Decals 72-001 and 72-002.

Information has been received from Nils Treichel of the Finnish SIG that George Lowe has released two decal sheets with makings for an eclectic batch of Finnish Air Force aircraft. Although I have not seen these decals, Nils has provided photocopies. Part 1 contains decals for eight aircraft types: (1) Friedrichsgafen FF-49C 'C.59/18' or 'C.72-18'. (2) Gourdou Leseurre GL-21C1 '8F.8', '8F.9', or 'GL-21'. (3) Mil Mi.8 'HS-2'. (4) Mil Mi-4 'HR-2'. And, (5) Low Vis markings for Draken 'MK-143', Hawk 'HW-344' or 'HW-331', and MiG 21bis/UM 'MG-132', 'MG-111', or 'MG-128'.

Part 2 provides decals for three types: (1) Breguet 14A2 '2 470'. (2) IVL A22 Hansa '4.F.66', '4.F.47', or 'IL-113'. And, (3) Draken 'DK-205'.

Sufficient national insignia are provided to model one of each type, and codes, serials, and unit insignia are provided for each individual aircraft.

It is impossible to evaluate the quality of these decals from the photocopy, but the printing looks good, the unit insignia are exotic, and the sheets are comprehensive. Definitely something the modeler of Finnish a/c should look into. For more information contact: Nils Treichel, Grosser Platz 4, 27432 Bremervoerde, Germany.

News from Poland

Models:

1. Modelkrak and Jadar Model have jointly released two 1/48-scale resin models: a Po-2 Soviet WWII biplane and a Schreck FBA 17HMT-2 flying boat of 1920s. Both kits are of the extremely-high quality associated with Polish resins from Krakow. All parts are produced from high-quality resin and are engineered the same as injection-molded plastic kits, i.e. the fuselage is in two halves with full interior detail on the side walls. All struts have copper-wire strengthening cores - no more flimsy struts destroyed on first attempt to put the top wing on. All parts are cleanly molded and the fit is as good as in most contemporary injection-molded kits. The kit of the Schreck is quite cleverly engineered with the engine-support struts and lower engine cover in one piece which makes the assembly of the engine pretty easy. The Po-2 kit has a pre-assembled (welded) metal undercarriage! A comprehensive photo-etched fret is included along with cockpit gauges so the cockpit can be super detailed. Decals for the Po-2 provide for Polish and Soviet aircraft, while the Schreck kit has decals for two Polish Navy aircraft: an HMT 2 and HE2.HMT 2 '44' which was last surviving Schreck when it was destroyed by a German attack on 8 September 1939! Really excellent kits.

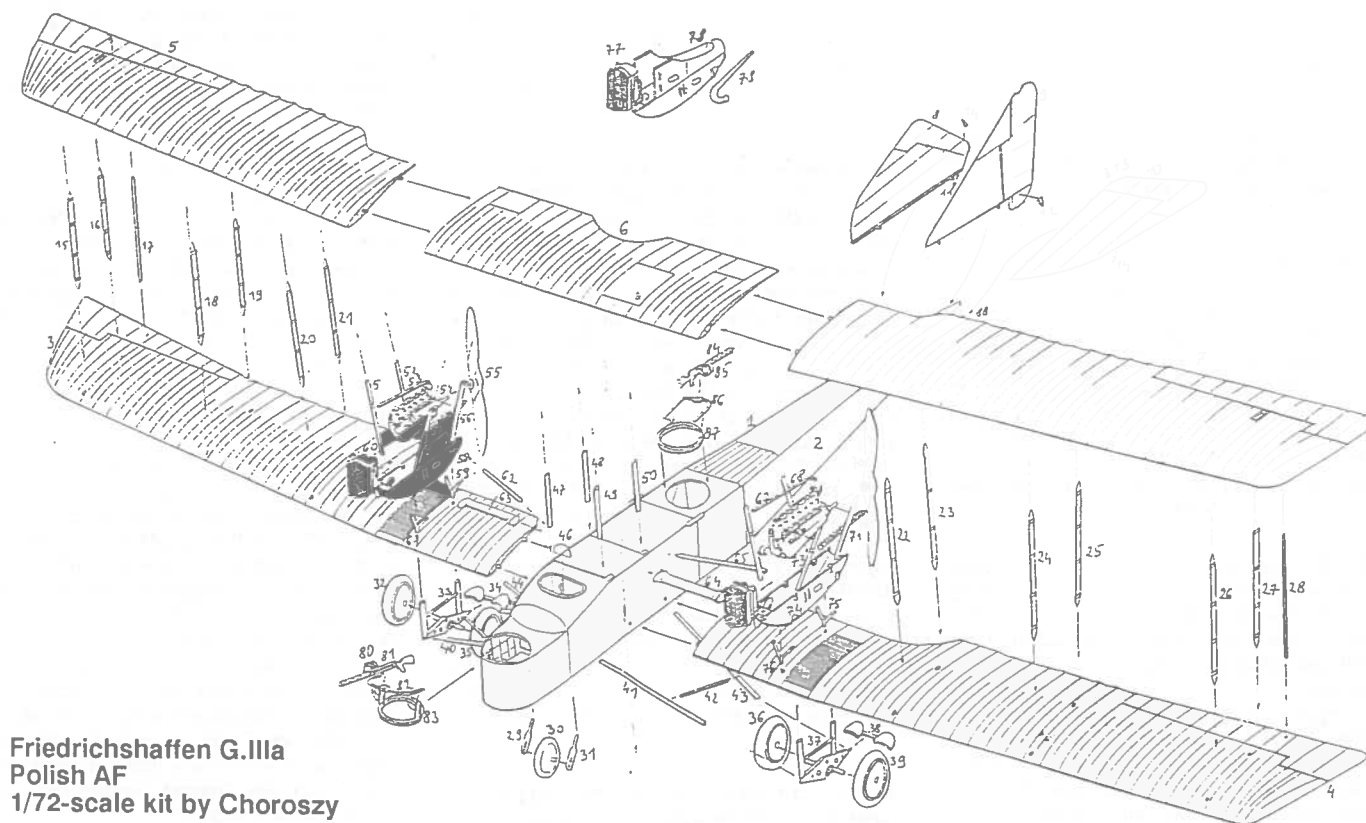
2. Choroszy Model (formerly Modelkrak) continues to release high-quality resin kits in 1/72 scale. They now have no less than 42 kits in their catalogue. While these are mainly Japanese biplane of 1920s and 1930s, recently they have released kits of aircraft of early Polish Air Force. Already released are the Morane Saulnier MS 35 EP parasol trainer, the Rumpler CI WWI recon biplane, the Albatros B IIa, WWI recon biplane, and the CAMS 30 E flying boat. Now, they have added the Friedrichshaffen G III/IIIa in three

different versions: A German G IIIa, a Polish G IIIa, and a Polish G III with a German G III still to come. Each kit contains only one color scheme, but the parts differ and are provided for particular version. The main differences are in the fuselage, undercarriage, tailplane, engines, exhaust stacks, and propellers; so you will have to select your kit carefully. Each model contains around 100 resin parts. There are no brass parts, but they are not necessary. Details are very good with full fuselage interior, detailed engines, props, undercarriage, armament, and small, but high quality, decals. As always, the fabric effect is excellent on flying surfaces which are quite huge even in 1/72 scale. Recommended!

3. InTech has just released the first of their long-awaited series of kits of the Mi-2 Hoplite helicopters. This first batch consists of three different kits: The Mi-2T (transport) with decals for a colorful Polish Navy SAR machine, a German AF machine, and a Libyan AF flying school machine. Next is Mi-2 URN version equipped with missile launchers with decals for Polish and Lithuanian machines. The third is the Mi-2 URP-G version equipped with anti-tank missiles and a gun with decals for Polish AF 56th, 'Kujawski' Air Combat Helicopter Regiment. Each kit has well over 50 parts injection-molded in light-grey plastic in addition to 11 transparencies. All parts are cleanly molded with recessed panel lines which are a little on a heavy side but correctly placed. Small parts are reasonable for the scale and contain two rotor sets, interior seats, stick, panel console with decal for instruments, undercarriage sets and tail skid, fuselage reinforcement structures, grills, rails, pitot probes, fuel tank, and weaponry. The closest comparison to these kits are the best Matchbox choppers. Comprehensive instruction sheets in Polish

and English contain color schemes referred to FS colors (and RAL colors in the case of the German machine) and the schemes are confirmed by a very small but legible photos. Decals are printed to the usual INTECH standard and include warnings, serials, and instrument panels. Everything is packed in the usual colorful box. InTech is preparing high-tech versions with photoetched frets and resin parts and more versions for this mass-produced and ubiquitous chopper.

4. HitKit, after a rather long break, has released a kit of the LVG C.V WWI biplane. This is a very welcome kit, not only for WWI modelers, but also for Polish and Latvian AF buffs. As far as is known, only a vacuform model of this type exists, which is a shame since this was one of the most popular German type. The first release contains decals for five German machines and all of them can be found in Windsock Datafile #71. The next kit will contain decals for eight Polish AF machines, as well as three Latvian, and one captured RFC machines. While the plastic parts are of the typical short-run quality, with some cleaning absolutely inevitable, they are of excellent accuracy when compared to the existing plans and photographs. The kits also contains three different type of exhaust pipes and engine cover. There are also well over 30 photoetched parts for interior, radiator, inspecting panels, etc. The instruction sheet, which is in both Polish and English, contains clear color schemes and shows also the pilot's windshield in 1/72 which must be cut from clear film by the modeler. The eye-catching box art which shows a LVG in combat with a SE-5 concludes this latest HitKit offer. The next release by HitKit is expected early in 2000 and is supposed to be a Schreck FBA flying boat in 1/72 scale.



Friedrichshaffen G.IIIa
Polish AF
1/72-scale kit by Choroszy

Publications:

1. Wydawnictwa Militaria has released a photo album titled **Sojusznicy Luftwaffe: Bulgaria** (Luftwaffe Allies: Bulgaria). It consists over 160 pictures of Bulgarian aircraft before and during WWII. Many of these photos are of aircraft of Polish origin used by the Bulgarian AF. This 56 pages album also includes plenty of color plates. The text is limited to the photo captions which are in Polish and English. The striking cover art shows a Bulgarian Bf-109 attacking a USAF Liberator somewhere over the Balkans.

2. Readers who remember the excellent book on the Polish 16th (39th) Reconnaissance Squadron 1919-1920 by Tomasz Kopanski will be pleased to know that the next book in this series has been released. It deals with the **3. Eskadra Wywiadowcza 1918-1920** (3rd Reconnaissance Squadron). This book has 288 pages between hard covers. 15 pages are devoted to an English summary and all pictures and color plates have English captions. There are 92 b/w photographs as well as 8 color plates depicting such types as the Albatros CI, Albatros CX, Breguet XIV, and the squadron

insignia in the form of a skeleton wearing a red scarf and playing a violin. Some maps and tables are also included. A must for Polish aviation fans. I was happy to see next books will be on the 7th Kosciuszko Sqn and the 1st and 10th Recce Squadrons.

Accessories.

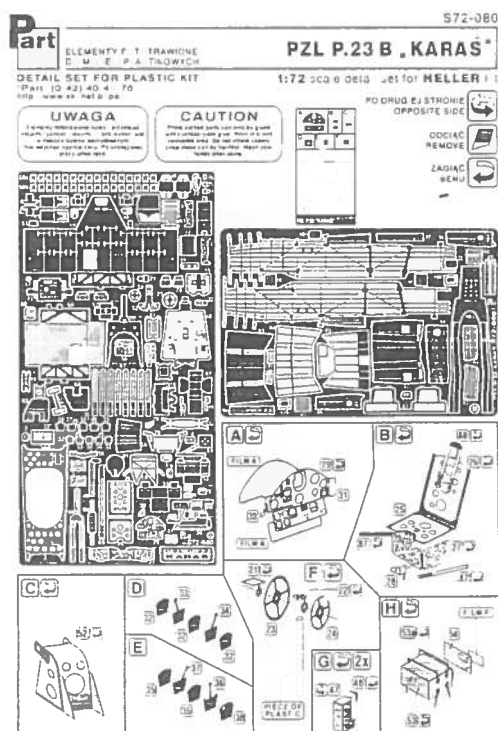
1. New decal company SP-DECAL released their first decals in both 1/72 and 1/48 scale. Both deal with MIG-29 Fulcrums of Polish, Slovak, German, and Yugoslav Air Forces. The 1/72 decal sheet covers four Polish machines of which two, '66' and '70' are in the new NATO scheme consisting of three greys, while '115' has a huge stork insignia which were painted on this aircraft to celebrate the visit to Poland of the French AF Mirage Squadrons. In 1/48 scale, we have additionally PAF red '54' in original ex-Czech AF camouflage, while the Yugoslav scheme is omitted. Both sheets have plenty of stenciling for all machines. Since the main sheets were printed mistakenly with both 1st Fighter Regiment as seen on the starboard side of the aircraft, the producers

have added small sheet with mermaids for the port side! All decals are cleanly and legibly printed in accurate colors. I am happy to see that SP-DECAL promises more decals such as for Spad VII/XIII, Mosquito, Cessna Bobcat, Lockheed Electra - all including schemes for Polish machines!

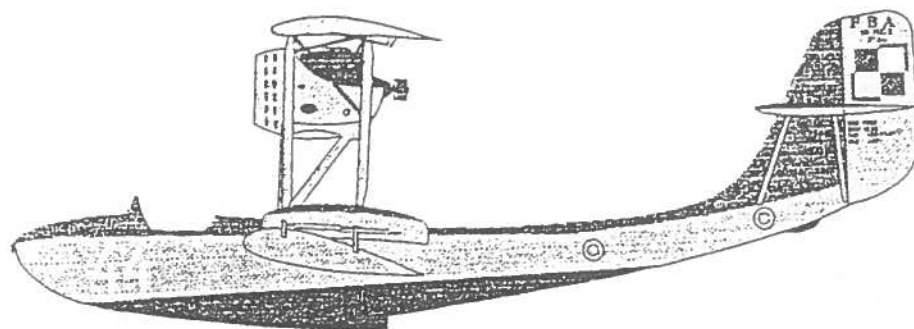
2. Also Hi Decal Line has released decal sets for the Mig-29 Fulcrum in both 1/72 and 1/48 scale. They are of the usual high standard expected from Hi Decal and contain decals for two Polish AF machines (again the new-scheme '66' and the ex-Czech '89' with tiger motif on the rudders), plus Cuban, Indian, Islamic Iranian, Yugoslav, and German Air Forces.

3. Part is continuing their excellent range of professional high-quality sets of photoetched parts in 1/72 and 1/48 scale. These have now reached almost 100 sets in the smaller scale and over 60 sets in 1/48 scale. Some of these, like those for PZL P-23 Karas, RWD-8, and An-2 are real gems.

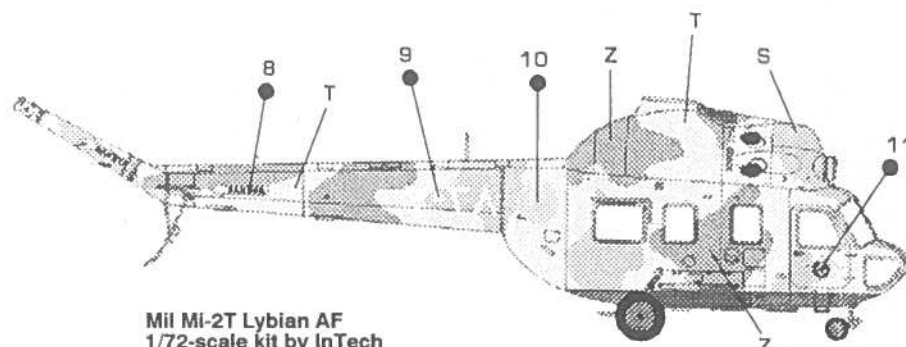
Wojciech Butrycz (SAFCH #981), ul. Aleksandry 25 m. 167, 30-837 Krakow, Poland.



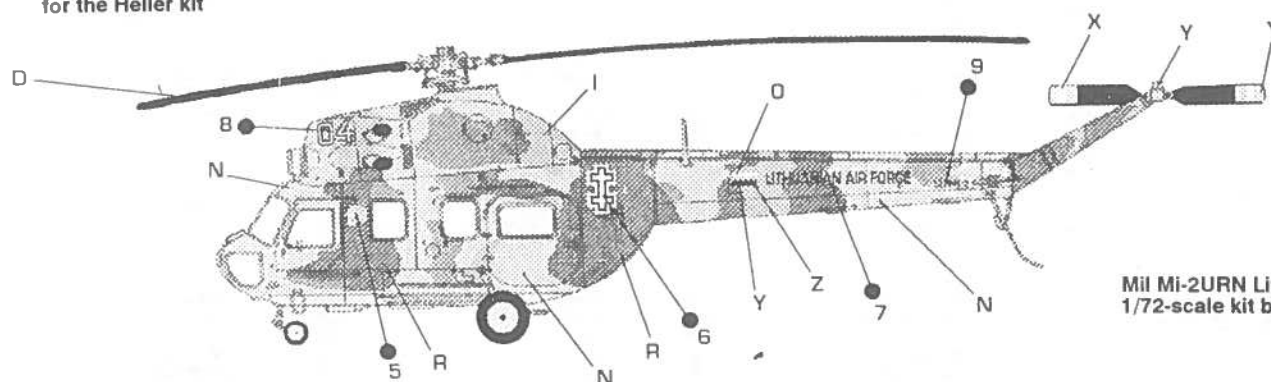
PZL P.23B Karas
1/72-scale detail set by Part
for the Heller kit



Schreck FBA HMT
1/48-scale kit by Modelkrak



Mil Mi-2T Lybian AF
1/72-scale kit by InTech



Mil Mi-2URN Lithuanian AF
1/72-scale kit by InTech

